We believe dry lining is about space creation, not space division.

Our systems combine innovative products to realise speed of installation and warranted high performance. Our service and experience ensure your design freedom remains uncompromised from concept to site.

Knauf – space creation to meet the demands of designers, contractors and clients.
1. Consult our ‘Integrated, Innovative Systems’ section to find the relevant solutions for the sector you are designing for:
   - Many of our systems are available in sector-optimised configurations.

2. Review our ‘Optimum Solutions’ tables. For 99% of applications, you’ll find the perfect solution already designed for you:
   - Helps you find your ideal solution rapidly
   - Easy-to-read performance information for each construction
   - Organised by sector to save you time

The sector icons quickly identify the relevant sector applications for each product range:

- **Residential**: Solutions for housing/hotels, plus residential elements of other buildings.
- **Commercial**: Solutions for offices, administrative areas within buildings, commercial and retail environments.
- **Healthcare**: Specialist solutions for hospitals, clinics and surgeries which meet HTM requirements.
- **Education**: Solutions for schools, universities and training colleges which meet B&K3 requirements.

3. If you want to tailor make your solution, or wish to upgrade to a higher or unique specification, you will find our complete performance tables on pages 316-322.

4. Review the system make-up, design detailing and installation procedures in our detailed ‘Systems’ pages:
   - Clear, easy-to-understand details
   - Full installation instructions
   - System overview with related components

The sector icons quickly identify the relevant sector applications for each product range:

- **Residential**: Solutions for housing/hotels, plus residential elements of other buildings.
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Generate specifications at www.knauf.co.uk
Integrated, Innovative Systems

These pages highlight which Knauf Drywall systems are most suited to meet performance criteria and bring a variety of construction and end-user benefits to the sector you are designing for.

Housing, hotels, residential elements of other buildings
• Solutions designed to satisfy the Code for Sustainable Homes* and the Building Regulations
• Efficient dry lining solutions for residential partitioning and linings

Partitions
Performer 16
Easybuild 42
Isolator 60

Wall Linings
Insulating Laminates 112

Soffit Linings
Ceiling Linings 138
Warm Roof Linings 140

* Used in conjunction with other systems

Schools, universities, training colleges
• Systems to meet BB93
• Solutions capable of meeting high impact criteria
• Durable, long-lived and easy to redecorate

Partitions
Performer 16

Office, administrative areas within buildings, commercial and retail environments
• Systems designed to meet wide ranging thermal and acoustic Building Regulations criteria
• Solutions designed to provide fire resistance periods of up to 2 hours
• Dry lining solutions for tall separating walls

Partitions
Performer 16
Silent Spacesaver 48
X-Ray Partitions 176

Soffit Linings
C-Form Suspended Ceiling 118
MF Suspended Ceiling 128

Hospitals, clinics, surgeries
• Specialist systems designed to meet HTM document requirements
• Impact-resistant acoustic partitions

Partitions
Performer 16
Silent Spacesaver 48
X-Ray Partitions 176

Soffit Linings
C-Form Suspended Ceiling 118
MF Suspended Ceiling 128

Sector generic systems
Specialist systems designed to meet HTM document requirements.

Partitions
Shaftwall 72
Wet Area Partitions 188

Wall Linings
Direct Bonding and Metal Furring 88
Wall Liner 98
Independent ‘I’ Stud 104

Wet Area Partitions
Acoustic and Aesthetic Linings 197

Steelwork Protection
Encasement 162

Floor Linings
Tiled Floor Linings 192

External Linings
Exterior Cladding System 146
External Soffit Linings 158

Acoustic and Aesthetic Ceilings 194

Generate specifications at www.knauf.co.uk
Product Innovation, Delivering Solutions

We know that finding the best solution for your application is paramount and we are continually improving our ranges and introducing new products with new benefits to give you the leading design edge, through simplicity of construction, performance and value for money. These pages cherry-pick some of our latest and best innovations.

Controlled acoustics — unrestricted design
- Seamless patterns allow creative freedom
- 16 style options
- Combines aesthetics and acoustic control

Apertura 194

Rapid weatherproofing of structure
- Fast closure of buildings
- Unaffected by water
- Perfect for external soffits and ceilings
- Lighter and faster than traditional brick or block facades

Aquapanel External Linings 144

Eliminate tile failure
- Dedicated tile backers for floors and walls
- Unaffected by water
- WILL NOT deteriorate in moisture-laden conditions
- Protects tiles from failure

Aquapanel Interior 184

Aquapanel Floor Tile Underlay 192

Optimise underfloor heating efficiency
- Strong, engineered dry screed board
- Thermally transparent
- Fast to install
- Optimises efficiency of underfloor heating systems

Brio Dry Floor Screed 142

Directly applied, pre-mixed plasters
- Pre-mixed, ready-to-use plasters
- Fast spray application
- Can be applied directly over concrete
- No water on site

Readymix Plasters 219

Reduce plastering schedules
- Fast spray application – up to 3 times faster than traditional
- Superb coverage and finish
- Cleaner sites with better health and safety
- Part E compliant

MPFinish 218

MP75 220

Instant energy saving
- Gives instant energy saving on refurbishments
- Combines lining with high-efficiency insulation
- Code for Sustainable Homes solutions

Insulating Laminates 86

Future-proof constructions
- Improved performance in many areas
- Can reduce layers of boards
- Reduce materials and waste on site
- Optimise design and construction solutions

High Performance Plasterboards 238

X-Ray protection without lead
- Removes the need for lead and all its problems
- Easy and fast to install
- Allows much greater design flexibility
- HPA tested – protection you can trust

Safeboard 176

Generate specifications at www.knauf.co.uk
A Responsible Approach

As a family-owned company producing lightweight building systems and products, we recognise our responsibility to operate a sustainable business that ensures a better quality of life for everyone, now and for generations to come.

Sustainability is central to our vision of doing the right thing for our clients, our people and the communities in which we work. To us, this means considering the long-term impacts of our business, such as energy reduction, resource efficiency and waste management, and applying these principles at the local level across our two manufacturing plants and throughout our business.

We implement our responsible approach by working to a range of policies:

- **Our Health and Safety Policy** states our commitment to ‘ensuring the health, safety and welfare of our employees and other persons who may be affected by our activities, and to continually improve our safe working environment’.

- **We have an Environmental Management System accredited to ISO 14001 and BES 6001 for Responsible Sourcing of Construction products. We have developed programmes to reduce our impact on the environment, including energy usage, transport, packaging, raw material usage, renewable and recycled materials and water usage.**

- **We ensure that our employees receive training, support and development opportunities to enable them to make a fulfilled and sustainable contribution to the company. We treat all stakeholders fairly and with respect and uphold fundamental labour rights. We will ensure our strategic suppliers have the necessary controls and processes in place to uphold the ten principles outlined in the UN Global Compact.**

- **We engage with the communities which are local to our operations and aim to make a positive contribution through economic, social, educational and charitable activities. We also seek to support broader, national community initiatives in a variety of ways.**

- **Our integrated management system enables us to monitor and review our own performance and that of our suppliers. We engage independent assessors to verify our performance and work closely with regulators to ensure that both preventative and reactive measures, where necessary, are used effectively.**

Contributing to a sustainable built environment

Using recyclable, environmentally low-impact Knauf plasterboards in your buildings will enhance their energy efficiency – helping to meet the Building Regulations and reducing CO₂ emissions for the whole life of the building.

We’re not only talking about new build; the same applies to the refurbishment of existing housing stock, schools, commercial or industrial premises – plasterboard constructions using our products achieve ‘A’ ratings in BRE’s Green Guide to Specification.

Our product and how we make it

Our plasterboard is manufactured from the most sustainable sources of gypsum available and we only use 100% recycled paper liners. We work hard to ensure the most efficient use of our raw materials to deliver the most sustainable product to our customers.

Knauf plasterboard is durable, does not naturally deteriorate and is also simple to recycle, something which we can help with. We work with contractors to reduce their on-site waste and increase recycling capacity.

The same is true of our metal systems – built to last and entirely recyclable when required.

Our factories are modern, ultra efficient and use sophisticated heat recovery systems to minimise energy wastage. We are continuing to investigate and invest in alternative energy sources to reduce our impact on the environment further.
Our Systems

These are systems that meet all your application and construction needs.

Innovation, ease of use and integration go together to provide powerful, high-performance and simple-to-implement solutions across all building sectors.

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<td>Direct Bonding and Metal Furring</td>
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<td>Wall Lining</td>
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<td>Independent ‘Y’ Stud</td>
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<td>Insulating Laminates</td>
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<td>C-Form Suspended Ceilings</td>
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<td>MF Suspended Ceilings</td>
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<td>Ceiling Linings</td>
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<td>Warm Roof Linings</td>
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<td>Flooring</td>
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<td>External Linings</td>
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<td>Aquapanel Exterior Cladding System</td>
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</table>
Partitions

The Knauf range of drywall partitions is the result of decades of experience in developing, testing and supporting warranted systems that meet the needs of the modern building.

Quickly and simply constructed from high-quality Knauf components, our partitions are guaranteed to perform. You can specify Knauf partitions safe in the knowledge that these components have been comprehensively tested together to ensure performance, and that our support extends from concept to site.

System Selector

Partitions

<table>
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<th>Page</th>
<th>Key features</th>
<th>Fire resistance1 (mins)</th>
<th>Sound reduction2 (dB [Rw])</th>
<th>Partition width (mm)</th>
<th>Maximum height4 (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performer</td>
<td>Simple, fast space division • Minimum components • Range of finishing options • Economic • Cross-sector application</td>
<td>0 30 60 90 120</td>
<td>35 45 55 65 75</td>
<td>208</td>
<td>up to 11.1</td>
</tr>
<tr>
<td>Easybuild</td>
<td>Optimum residential solution • 90mm stud centres • No insulation needed • Meets 40dB sound reduction requirements</td>
<td>30</td>
<td>40</td>
<td>308</td>
<td>up to 2.6</td>
</tr>
<tr>
<td>Silent Spacesaver</td>
<td>High acoustic performance • Low overall width • High fire resistance</td>
<td>60–90</td>
<td>40–62</td>
<td>308</td>
<td>up to 5.7</td>
</tr>
<tr>
<td>Isolator</td>
<td>The best acoustic performance • Twin frames provide physical separation • Accommodates large service runs • Separating Wall and Cinema Wall variants</td>
<td>60–120</td>
<td>45–76</td>
<td>500</td>
<td>up to 5.7</td>
</tr>
<tr>
<td>Shaftwall</td>
<td>Quickly constructed from one side • Unique ‘C-T’ Stud minimises components • Up to 2 hours fire rating</td>
<td>60–120</td>
<td>44–50</td>
<td>208</td>
<td>up to 8</td>
</tr>
</tbody>
</table>

1 Please check individual system pages for specific fire ratings to EN and BS standards.
2 Please check individual system pages for specific acoustic ratings.
3 45dB DnT,w+C is an on-site figure to Approved Document Part E and complies with Robust Details E-WS-1.
4 Please check individual system pages for achievable specific maximum heights.
Knauf Performer

Knauf Performer is our most versatile partition solution, able to meet nearly every performance requirement. The Knauf Performer system is lightweight, strong and easy to install and can be specified with confidence for an enormous range of applications.

Key Features
- Versatile, light, fast and easy to install
- System can utilise the entire range of boards
- Optimised solutions to meet sector-specific requirements
- Minimum amount of components required to construct
- Comprehensively tested, developed and site proven

Knauf Performer Partitions

Knauf Performer copes easily with the most demanding fire, sound, moisture and impact resistance requirements. Knauf components are designed to work together guaranteeing you a fully integrated system.

Other Components
- Knauf Movement Control Joint is an aluminium ‘V’ section used to bridge gaps left for expansion and contraction.
- Knauf Sealant seals gaps and minimises airborne sound transmission.
- Knauf Resilient Bar is fixed to floors to reduce direct sound transmission.

Our Products
- Knauf Screws are self-drilling and self-tapping and are designed to work perfectly with Knauf Plasterboards.

Finishing
- Our complete range of finishing products includes hand-applied jointing, plaster and ready-mixed solutions. See our full guide on page 210.

Our range of Partition Solutions includes:
- Easybuild 42
- Silent Spacesaver 48
- Isolator 60
- Shaftwall 72

Other Components
- Knauf Movement Control Joint is an aluminium ‘V’ section used to bridge gaps left for expansion and contraction.
- Knauf Sealant seals gaps and minimises airborne sound transmission.
- Knauf Resilient Bar is fixed to floors to reduce direct sound transmission.

Generate specifications at www.knauf.co.uk
Knauf Performer
Installation procedures
Knauf Performer partitions are designed to be simple and fast to install. Knauf Technical Services are on hand should you have any questions or unusual situations to deal with.

General
Knauf Performer partitions must be installed in accordance with the recommendations of BS 1021: 1995 and BS 8000: Part 8: 1994.

Perimeter Framing 1, 2
Knauf ‘U’ Channels should be used for the head and base of the partition. Knauf ‘C’ Studs should be used to form any abutments and to frame openings. Bed each section on two continuous beads of Knauf Sealant or Knauf Intumescent and Acoustic Mastic as specified. Secure with suitable fixings at maximum 600mm centres and 50mm from ends of channels or studs. Separate studs and channels forming the perimeter need not be joined, but should be tightly butted together. Replace Knauf ‘U’ Channel with a Knauf Deep Flange ‘U’ Channel when forming a deflection head.

Partitions constructed to provide fire and/or acoustic separation are required to span from structural floor to structural soffit. Vertical Studs 3
Studs should be positioned within the channels to coincide with the abutments of the boards, at centres dependant on the performance requirement of the system. In general, there is no requirement to secure the metal at this point as this will be achieved once the boards are screw-fixed.

Knauf ‘C’ and ‘I’ Studs should be trimmed to within 5mm of the slab to soffit height. For deflection heads: studs should be cut short to allow for required clearance within Knauf Deep Flange ‘U’ Channel. Knauf ‘C’ Studs can be extended by forming a splicing detail. See details 30 and 31 on page 40.

Insulation
Subject to the performance requirements, once the studs have been located in the Knauf ‘U’ Channels and one side has been boarded, Knauf insulation as specified should be inserted between the studs vertically. Care should be taken to ensure that the insulation is fitted neatly without gaps at abutments or vertically between different rolls.

Support for Horizontal Joints in Facings
To back horizontal joints in outer board layers, Knauf Fixing Channel or Knauf Flat Fixing Plate should be fitted across the face of all studs, secured with two Knauf Wafer Head Jackpoint Screws per stud to both faces or between board layers.

Doorways 4, 5, 6, 7
The head is formed with Knauf Deep Flange ‘U’ Channel, snipped and bent back and screw-fixed with Knauf Wafer Head Jackpoint Screws to the stud. See details 28 and 29 on pages 38–39.

Boarding 8
All boards should be offered up to the frame with the face of the board outwards and secured with Knauf Screws at 300mm maximum centres. Fixing centres should be reduced to 200mm at corners. Boarding should commence at one end and work across the partition. At head, floor and abutments, board edges should be bedded on to continuous beads of Knauf Sealant. Board joints in multiple layers should be staggered both vertically and horizontally by at least 600mm. Deflection Heads
The maximum deflection allowance should be no more than half the Flange length of the Knauf Deep Flange ‘U’ Channel and for a downward direction.

Knauf Training Courses
We offer a range of comprehensive training courses at our purpose-built training schools to ensure the installer is fully up to speed with the latest techniques and regulations. See page 276 for more information.
**Knauf Performer**

Fast track to your optimum solution

1. **Choose your sector**
2. **Find your performance levels**
3. **Find your solution**

### Performer for Residential Projects

<table>
<thead>
<tr>
<th>Performer PFR1/13</th>
<th>Sound</th>
<th>Fire*</th>
<th>Max Height**</th>
<th>Width</th>
<th>Impact Duty***</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 layer of 12mm Knauf Wallboard each side of 70mm Knauf Acoustic 'C' Stud at 600mm centres with 50mm Knauf Earthwool Acoustic Roll within the cavity</td>
<td>40dB(A)</td>
<td>30min</td>
<td>2500mm</td>
<td>77mm</td>
<td>Medium</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performer PFR2/08</th>
<th>Sound</th>
<th>Fire*</th>
<th>Max Height**</th>
<th>Width</th>
<th>Impact Duty***</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 layer of 15mm Knauf Wallboard each side of 70mm Knauf Acoustic 'C' Stud at 600mm centres</td>
<td>40dB(A)</td>
<td>30min</td>
<td>4000mm</td>
<td>102mm</td>
<td>Heavy</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performer PFR3/13</th>
<th>Sound</th>
<th>Fire*</th>
<th>Max Height**</th>
<th>Width</th>
<th>Impact Duty***</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 layer of 12mm Knauf Soundshield Plus each side of 70mm Knauf 'C' Studs at 600mm centres</td>
<td>40dB(A)</td>
<td>30min</td>
<td>3600mm</td>
<td>97mm</td>
<td>Heavy</td>
</tr>
</tbody>
</table>

### Performer for Educational Projects

<table>
<thead>
<tr>
<th>Performer PFE1/08</th>
<th>Sound</th>
<th>Fire*</th>
<th>Max Height**</th>
<th>Width</th>
<th>Impact Duty***</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 layer of 15mm Knauf Impact Panel each side of 70mm Knauf Acoustic 'C' Stud at 600mm centres</td>
<td>40dB(A)</td>
<td>60min</td>
<td>4000mm</td>
<td>102mm</td>
<td>Severe</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performer PFE2/08</th>
<th>Sound</th>
<th>Fire*</th>
<th>Max Height**</th>
<th>Width</th>
<th>Impact Duty***</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 layer of 15mm Knauf Impact Panel each side of 70mm Knauf Acoustic 'C' Stud at 600mm centres with 25mm Knauf Earthwool Acoustic Roll within the cavity</td>
<td>45dB(A)</td>
<td>60min</td>
<td>4000mm</td>
<td>102mm</td>
<td>Severe</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performer PFE3/08</th>
<th>Sound</th>
<th>Fire*</th>
<th>Max Height**</th>
<th>Width</th>
<th>Impact Duty***</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 layer of 15mm Knauf Impact Panel each side of 70mm Knauf Acoustic 'C' Stud at 600mm centres</td>
<td>45dB(A)</td>
<td>60min</td>
<td>4000mm</td>
<td>102mm</td>
<td>Severe</td>
</tr>
</tbody>
</table>

### Performer for Educational Projects continued

<table>
<thead>
<tr>
<th>Performer PFE3/08</th>
<th>Sound</th>
<th>Fire*</th>
<th>Max Height**</th>
<th>Width</th>
<th>Impact Duty***</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 layer of 15mm Knauf Impact Panel each side of 70mm Knauf Acoustic 'C' Stud at 600mm centres with 50mm Knauf Earthwool Acoustic Roll within the cavity</td>
<td>50dB(A)</td>
<td>60min</td>
<td>4000mm</td>
<td>102mm</td>
<td>Severe</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performer PFE4/08</th>
<th>Sound</th>
<th>Fire*</th>
<th>Max Height**</th>
<th>Width</th>
<th>Impact Duty***</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 layers of 15mm Knauf Impact Panel each side of 70mm Knauf Acoustic 'C' Stud at 600mm centres with 25mm Knauf Earthwool Acoustic Roll within the cavity</td>
<td>57dB(A)</td>
<td>120min</td>
<td>5100mm</td>
<td>132mm</td>
<td>Severe</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performer PFE7/13</th>
<th>Sound</th>
<th>Fire*</th>
<th>Max Height**</th>
<th>Width</th>
<th>Impact Duty***</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 layers of 15mm Knauf Soundshield Plus each side of 70mm Knauf 'C' Studs at 600mm centres with Knauf Resilient Bars at 600mm vertical centres one side and 50mm Knauf Earthwool Acoustic Roll within the cavity</td>
<td>62dB(A)</td>
<td>90min</td>
<td>4200mm</td>
<td>148mm</td>
<td>Severe</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performer PFE8/13</th>
<th>Sound</th>
<th>Fire*</th>
<th>Max Height**</th>
<th>Width</th>
<th>Impact Duty***</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 layers of 15mm Knauf Soundshield Plus each side of 70mm Knauf 'C' Studs at 600mm centres with Knauf Resilient Bars at 600mm vertical centres both sides and 50mm Knauf Earthwool Acoustic Roll within the cavity</td>
<td>65dB(A)</td>
<td>90min</td>
<td>3200mm</td>
<td>164mm</td>
<td>Severe</td>
</tr>
</tbody>
</table>

** Maximum heights calculated based on a limiting deflection of L/240 at 200Pa.
*** Impact Duty rated in accordance with BS 5234: Part 2: 1992 Annexes B,C,D,E.

Looking for our full Knauf Performer performance tables? These are Optimised Solutions designed to provide the most effective system to suit the specific performance criteria for that sector.

Should your requirements fall outside these, please see our performance tables in the appendices section on pages 316–319 or contact our Knauf Technical team on 01795 416259.

Performance you can trust
All Knauf Performer Partitions utilise high-quality, purpose-designed Knauf Plasterboards, Knauf Studs and Channel and Knauf Accessories. These components are carefully matched to realise the performances detailed below and are tested together as a whole system.

Insisting on genuine Knauf components throughout will ensure your Knauf Performer Partition is fully covered by our performance warranty.

Please note – you can find our full range of Performer Solutions in the Appendices on pages 316–319.

Ensure your Knauf Performer components throughout will be tested together as a whole system. Performance you can trust

All Knauf Performer Partitions utilise high-quality, purpose-designed Knauf Plasterboards, Knauf Studs and Channel and Knauf Accessories. These components are carefully matched to realise the performances detailed below and are tested together as a whole system.

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Performer Solutions for Commercial Projects

Commercial projects encompass a very wide range of situations and subsequent performance requirements, making a practical ‘Optimised Solutions’ list difficult to produce.

Please refer to our easy-to-use performance tables in the back of this manual to find your optimised solution.

Our Performer Partitions range includes solutions ranging from simple, narrow 30 minute fire rated partitions to high privacy, tall 2 hour partitions.

If you have an unusual situation then Knauf Technical Services are on hand to help.

Looking for our full Knauf Performer performance tables?
These are Optimised Solutions designed to provide the most effective system to suit the specific performance criteria for that sector.

Should your requirements fall outside these, please see our performance tables in the appendices section on pages 316–319 or contact our Knauf Technical team on 01795 416259.

Performance you can trust
All Knauf Performer Partitions utilise high-quality, purpose-designed Knauf plasterboards, Knauf Studs and Channels and Knauf Accessories. These components are carefully matched to realise the performance detailed below and are tested together as a whole system.

Insisting on genuine Knauf components throughout will ensure your Knauf Performer Partition is fully covered by our performance warranty.

Performance you can trust
All Knauf Performer Partitions utilise high-quality, purpose-designed Knauf plasterboards, Knauf Studs and Channels and Knauf Accessories. These components are carefully matched to realise the performance detailed below and are tested together as a whole system.

Insisting on genuine Knauf components throughout will ensure your Knauf Performer Partition is fully covered by our performance warranty.

Full performance data for Knauf ‘C’ Stud Performer Partitions can be found on pages 316–317.

Full performance data for Knauf ‘I’ Stud Performer Partitions can be found on pages 318–319.
Standard head and floor

The Knauf ‘U’ Channel should be fixed to the structural soffit at maximum 600mm centres. Knauf ‘U’ Channels should be bedded securely onto continuous beads of Knauf Sealant to ensure optimum sound reduction by preventing air paths. If deflection of the soffit is expected, please refer to deflection head detailing.

Detail 1

‘C’ and ‘I’ Stud single boarded

Any type of Knauf plasterboard can be fixed to Knauf ‘C’ and ‘I’ Studs, to achieve different performance requirements.

Knauf Plasterboard
Knauf Drywall Screws at 300mm centres
Knauf Earthwool Acoustic Roll if required
Knauf Sealant or Knauf Intumescent and Acoustic Mastic
Knauf Drywall Screws at 300mm centres

Joints taped and filled

Detail 2

‘C’ and ‘I’ Stud double boarded

Double boarding is one method to achieve increased performance levels. For example: by double boarding with Knauf Wallboard, up to 1 hour fire resistance can be achieved.

Double layer of Knauf Plasterboard
Knauf Drywall Screws at 300mm centres
Knauf Earthwool Acoustic Roll if required
Knauf Plasterboard
Knauf Drywall Screws at 300mm centres

Joints taped and filled

Knauf Performer

Application Details

These details represent some of the most common design situations relevant to the Knauf Performer partition system. Knauf Technical Services can advise on any specific detail you are trying to achieve.

‘C’ and ‘I’ Stud single boarded

Any type of Knauf plasterboard can be fixed to Knauf ‘C’ and ‘I’ Studs, to achieve different performance requirements.

Knauf Plasterboard
Knauf Drywall Screws at 300mm centres
Knauf Earthwool Acoustic Roll if required
Knauf Sealant or Knauf Intumescent and Acoustic Mastic
Knauf Drywall Screws at 300mm centres

Joints taped and filled

Detail 1

‘C’ and ‘I’ Stud double boarded

Double boarding is one method to achieve increased performance levels. For example: by double boarding with Knauf Wallboard, up to 1 hour fire resistance can be achieved.

Double layer of Knauf Plasterboard
Knauf Drywall Screws at 300mm centres
Knauf Earthwool Acoustic Roll if required
Knauf Plasterboard
Knauf Drywall Screws at 300mm centres

Joints taped and filled

Where you see these icons in a detail, that detail is particularly relevant to that sector.
Deflection head detail, up to 30 minutes fire resistance

- Knauf Nailable Plug or suitable fixing at 600mm centres
- Structural softfail
- Deflection allowance
- Knauf Sealant
- Knauf Deep Flange ‘U’ Channel
- Knauf Plasterboard to suit specification
- Knauf Drywall screws at 300mm centres
- Knauf ‘C’ or ‘I’ Studs to suit partition specification

Deflection head detail, up to 90 minutes fire resistance

- Knauf Nailable Plug or suitable fixing at 600mm centres
- Structural softfail
- Deflection allowance
- Layers of Knauf Core Board or Fire Panel to suit deflection amount ensuring 10mm minimum board overlap
- Knauf Sealant
- Knauf ‘C’ or ‘I’ Studs to suit partition specification
- Minimum 2 layers of Knauf Plasterboard to suit specification

Deflection head detail, 30 minutes fire resistance

- Knauf Nailable Plug or suitable fixing at 600mm centres
- Structural softfail
- Deflection allowance
- Knauf Plasterboard Mute ensuring 10mm minimum board overlap
- Knauf Sealant
- Knauf Deep Flange ‘U’ Channel
- Knauf Plasterboard to suit specification
- Knauf Drywall screws at 300mm centres
- Knauf Flat Fixing Plate

Deflection head detail, 120 minutes fire resistance

- Nailable Plug or suitable fixing at 600mm centres
- Structural softfail
- 25 x 30mm Knauf Angle Section
- Knauf Universal Slab RS60
- Knauf Sealant
- Layers of Knauf Core Board or Fire Panel to suit deflection amount ensuring 10mm board overlap
- Minimum 2 layers of Knauf Fire Panel or Impact Panel to meet 120 minutes fire resistance

Where you see these icons in a detail, that detail is particularly relevant to that sector.
Knauf Performer

Deflection head detail, 120 minutes fire resistance

- Knauf Intumescent and Acoustic Mastic
- 25 x 30mm Knauf Angle Section
- Deflection allowance
- Knauf Deep Flange 'U' Channel
- Deflection allowance
- Knauf Drywall screws at 300mm centres

Knauf Universal Slab RS 60

Tabs cut into track and bent up to retain insulation

Minimum 2 layers of Knauf Fire Panel or Impact Panel to meet 120 minutes fire resistance

Knauf Flat Fixing Plate

Corner 90°

Fixings at the junction should be made from stud to stud. Knauf 'C' Studs form intersections in both 'I' and 'C' Stud Performer partitions.

- Knauf Screws at 300mm centres
- Taped and jointed

Knauf Screws at 300mm centres for stud to stud fixings

Splayed corner

Treated and prepared timber grounds can be incorporated to create splayed corners. Knauf 'C' Studs form intersections in both 'I' and 'C' Stud Performer partitions.

- Knauf Screws at 300mm centres
- Taped and jointed

Knauf 'C' Studs screw fix to timber grounds at 600mm maximum centres

Shaped timber ground

Not: Where partitions line runs across rib deck soffit, fill with fire stopping insulation.

Where you see these icons in a detail, that detail is particularly relevant to that sector.

Generate specifications at www.knauf.co.uk
**Abutment T-junction**

Fixing at the junctions should be made from stud to stud. Extra studs should be included if required.

- Knauf Drywall screws at 600mm maximum centres for stud to stud fixings
- Knauf Drywall screws at 300mm centres
- Additional Knauf ‘C’ or ‘I’ Stud at intersection
- Taped and jointed
- Knauf Drywall Screws at 300mm centres
- Knauf ‘C’ or ‘I’ Stud to suit specification

**Abutment T-junction, high performance flanking intersection**

Where there are high acoustic requirements a flanking detail should be considered.

- Knauf Drywall Screws at 300mm centres
- Knauf Plasterboard to suit specification
- Knauf insulation if required
- Additional Knauf ‘C’ or ‘I’ Stud at intersection
- Knauf Sealant
- Taped and jointed
- Knauf Drywall Screws at 300mm centres
- Knauf ‘C’ or ‘I’ Stud to suit specification

**Abutment T-junction, alternative flanking detail**

Fixing at the junctions should be made from stud to stud. Extra studs should be included. A break in the plasterboard helps to prevent flanking sound transmission.

- Knauf Drywall Screws at 600mm centres
- Suitable fixings at 600mm centres
- Knauf Plasterboard to suit specification
- Knauf insulation if required
- Additional Knauf ‘C’ or ‘I’ Stud
- Knauf Drywall screws at 300mm centres
- Knauf Drywall Screws at 300mm centres
- Knauf Sealant
- Taped and jointed

**Abutment – direct bonding where partition is fire rated**

- Knauf Plasterboard Adhesive
- Taped and jointed
- Knauf Plasterboard to suit specification
- Suitable fixings at 600mm centres
- Knauf ‘C’ Stud
- Knauf ‘I’ Stud
- Knauf Plasterboard Adhesive Plug or suitable fixings at 600mm centres
**Abutment**
Direct bonding of Knauf Insulating Laminate where partition is fire rated.

- Taped and jointed
- Knauf Plasterboard Adhesive
- Knauf Sealant
- Knauf Insulating Laminate to maintain thermal performance
- Knauf Notifiable Plug or suitable fixings at 600mm centres

**Pipe penetration**
Suitable for small pipes – typically up to 40mm diameter. The mineral wool must be secured around the pipe with wire or mesh.

- Knauf Universal Slab RS33
- Knauf Intumescent and Acoustic Mastic

**Duct penetration**
For pipes and ducts above 160mm diameter. Knauf ‘C’ Studs and ‘U’ Channels form an opening for the duct. Fire dampers in ductwork, when present, should be independently supported and installed with regard to the manufacturer’s instructions.

- Knauf Universal Slab RS33
- Knauf Intumescent and Acoustic Mastic

**Note:** Check with pipe manufacturer that pipe material is compatible with Knauf Intumescent and Acoustic Mastic.
Knauf Plasterboard to suit specification

Additional Knauf ‘C’ Studs as trimmers each side of opening

Knauf Plasterboard returned and screw-fixed to trimming stud/channel as lining to opening

Ends of Knauf Deep Flange or Knauf ‘U’ Channel stripped, bent and turned up or down a minimum 300mm and fixed to studs with two Knauf WAS Head Jackpoint Screws each side.

Fire stopping insulation (by others)

Movement control joint

This detail allows lateral movement of up to 7mm. The control joint must be fixed at 150mm centres on both edges. This detail maintains the fire resistance of a 1 hour partition.

Expansion joint

This detail allows more movement than the previous detail, in conjunction with a shadow gap formed by Knauf Edge Beads. This detail can provide up to 2 hours fire resistance when designed into a double layer Knauf Performer 2 hour partition.

Edge levelled off with Knauf setting compound

max 150mm
Sockets and switches

Heavyweight fixings parallel to surface

Suitable for heavyweight fixings where the applied load is fixed and continuous, and for mediumweight fixings where the load may be subject to some movement (e.g. through removable objects). Complies with BS 5234.

• Suggested applications: baths (lateral location only), cupboards, shelving, handrails, radiators.

Heavyweight fixings with moment

For use where the applied load is not directly adjacent to the board surface, thus producing a twisting force that the other fixing details are not capable of withstanding. It is also suitable for fixing items that are likely to receive rougher than usual treatment. Complies with BS 5234.

• Suggested applications: TV mounting arms, pay telephones and kiosks, disabled grab rails.

Lightweight fixings parallel to surface

Suitable for mediumweight fixings where the applied load is fixed and continuous, and for lightweight fixings where the load may be subject to some movement (e.g. through removable objects). Complies with BS 5234.

• Suggested applications: curtain rails, pictures.

Knauf Performer

Generate specifications at www.knauf.co.uk
**Doorway, 0–60kg door jamb**

**Detail 28**

- **Knauf Deep Flange 'U' Channel** by suit deflection allowing head to structural soffit at maximum 600mm centres
- **Knauf Flat Fixing Plate** (if required within the appropriate deflection head detail)
- **Knauf Wafer Head Screws** at 300mm maximum centres
- **Knauf Deep Flange 'U' Channel** section to each side of door opening fitted between returned legs at door head and base
- **Knauf 'C' Stud** to each side of door jamb
- Two pairs of fixings: one pair at jamb stud base; one pair at 150mm from door jamb stud. Remainder of Knauf ‘U’ Channel secured at 600mm centres
- **Knauf 'U' Channel** with 300mm leg cut and returned up door jamb stud
- 300mm turned up floor channel secured with Knauf Wafer Head Screws at 150mm centres

**Note:** Timber ground out required for structural performance, but may be required by door manufacturer. Door jamb arrangement repeated both sides of door opening. Position of flat fixing plate to suit deflection allowance (if required).

---

**Doorway, 60–100kg door jamb**

**Detail 29**

- **Knauf Deep Flange 'U' Channel** (70mm flange) head to structural soffit at maximum 600mm centres
- **Additional Knauf ‘C’ Stud** positioned 150mm from door jamb stud each side of door opening
- **Knauf Wafer Head Screws** at 300mm maximum centres
- **Knauf Deep Flange 'U' Channel** (70mm flange) section to each side of door opening fitted between returned legs at door head and base
- **Knauf ‘C’ Stud** to each side of door jamb
- Two pairs of fixings: one pair at jamb stud base; one pair at 150mm from door jamb stud. Remainder of Knauf ‘U’ Channel secured at 600mm centres
- **Knauf 'U' Channel** with 300mm leg cut and returned up door jamb stud
- 300mm turned up floor channel secured with Knauf Wafer Head Screws at 150mm centres

**Note:** Timber ground out required for structural performance, but may be required by door manufacturer. Door jamb arrangement repeated both sides of door opening. Position of flat fixing plate to suit deflection allowance (if required).
**Curved partition**

Knauf ‘C’ or ‘I’ Studs to suit specification

Knauf Plasterboard fixed horizontally to suit specification

Knauf ‘U’ Channel spaced at regular centres to form curve (refer to table below for correct centres)

Knauf ‘U’ Channel fixed with Knauf Nailable Plug or suitable fixing for background

---

**Knauf recommended minimum board bending radii**

<table>
<thead>
<tr>
<th>Knauf Board Thickness</th>
<th>Minimum Radius</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.5mm</td>
<td>1 metre</td>
</tr>
<tr>
<td>12.5mm</td>
<td>1.5 metres</td>
</tr>
<tr>
<td>15.0mm</td>
<td>2.5 metres</td>
</tr>
</tbody>
</table>

**Based on Knauf Wallboard**

**Radius | ‘U’ Channel Cuts at [centres] | ‘U’ Channel Fixed at [centres] | Studs at [centres]**

| 5 metres plus | 300mm | 600mm | 600mm |
| 3–5 metres    | 100mm  | 400mm | 300mm |
| 1–3 metres    | 50mm   | 300mm | 150mm |

* Stud centres also dependant on partition maximum height

---

Generate specifications at www.knauf.co.uk
Knauf Easybuild

Knauf Easybuild has been developed to reduce the number of components and speed up the construction of internal partitions in residential situations. Easybuild is the most efficient solution for your residential project.

**Knauf Soundshield Plus**

1.5mm Knauf Soundshield Plus maintains the strength of the partition and meets the acoustic requirements without the need for an insulation quilt.

**Stud**

Knauf Acoustic ‘C’ Studs simply twist and snap into head and floor tracks.

**Head Track**

Knauf ‘U’ Channel secured to the soffit forms head plate.

**Floor Track**

Knauf ‘U’ Channel secured to floor.

**Fixings**

Knauf Screws are self-drilling and self-tapping and are designed to work perfectly with Knauf Plasterboards.

**Finishing**

Our complete range of finishing products includes hand- and machine-applied jointing, plaster and ready-mixed solutions. See our full guide on page 210.

**Our range of Partition Solutions includes:**

- Performer 16
- Silent Spacesaver 48
- Isolator 60
- Shaftwall 72

**Easybuild Partitions**

Knauf Easybuild has been designed to be constructed using the minimum of components, with studs at 900mm centres for speed and economy of installation.

**Key Features**

- Minimum number of components
- Studs at 900mm centres
- No insulation quilt required
- Meets Approved Document E 40dB(Rw) sound reduction requirements
- Simple and quick to install

**Other Components**

- Knauf Fixing Channel/Knauf Flat Plate provides fixing for horizontal joints or support for fixtures.
- Knauf Sealant seals gaps, minimises airborne sound transmission.

Generate specifications at www.knauf.co.uk

Download Spec Sheet

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**Easybuild for Residential Projects**

Our efficient Knauf Easybuild partition system utilises high-quality, purpose-designed Knauf Masterboard, Knauf Studs and Channel and Knauf Accessories. These components are carefully matched to realise the performance detailed below and are tested together as a whole system.

Installing genuine Knauf components throughout will ensure your Knauf Easybuild partition is fully covered by our performance warranty.

---

## Installation Procedure

**Knauf Easybuild**

The Knauf Easybuild partition system is designed to be simple and fast to install. Knauf Technical Services are on hand should you have any questions or unusual situations to deal with.

**General**

Knauf Easybuild must be installed in accordance with Knauf’s recommendations and the recommendations of BS 8212: 1995 and BS 8000: Part 8: 1994.

**Perimeter Framing 1, 2**

50mm Knauf Acoustic ‘C’ Studs should be used to form the perimeter and base of the partition. 50mm Knauf Acoustic ‘C’ Studs should be used to form any abutments and to frame openings. Bed each section on two continuous beads of Knauf Sealant and secure with suitable fixings at maximum 600mm centres and 50mm from ends of channels or studs. Separate studs and channels forming the perimeter need not be joined, but should be tightly butted together.

**Separate Studs and Channels forming the perimeter centres and 50mm from ends of channels or studs.**

Secure with suitable fixings at maximum 600mm on two continuous beads of Knauf Sealant and abutments and to frame openings. Bed each section Acoustic ‘C’ Studs should be used to form any head and base of the partition. 50mm Knauf Acoustic ‘C’ Studs should be trimmed to within 5mm of the slab to soffit height.

**Support for Horizontal Joints in Facings**

To back horizontal joints, Knauf Fixing Channel or Knauf Flat Fixing Plate should be fitted across the face of all stud, secured with two Knauf Wafer Head Screws per stud to both faces.

**Doorways 5, 6**

The head is formed with 52mm Knauf ‘U’ Channel, snipped, bent and screw-fixed with Knauf Wafer Head Screws to the web of the door jamb studs. See detail 4 on page 47. In addition, a timber ground should be fitted within the door jamb studs to allow for fixing of the door set.

**Boarding 7, 8**

All 900mm wide 15mm Knauf Soundshield Plus boards should be offered up to the frame with the face of the board outwards and secured with Knauf Screws at maximum 400mm centres. Fixing centres should be reduced to 200mm at corners. Boarding should commence at one end and work across the partition. At head, floor and abutments, board edges should be bedded onto continuous beads of Knauf Sealant. Tape and joint for a seamless finish.

**Performance**

Partitions constructed to provide fire and/or acoustic separation are required to span from structural floor to structural soffit.

**Vertical Studs 3, 4**

50mm Knauf Acoustic ‘C’ Studs should be positioned within the channels to coincide with the vertical edge of the 900mm wide 15mm Knauf Soundshield Plus boards, at 900mm centres. In general, there is no requirement to secure the metal at this point as this will be achieved once the boards are screw-fixed. 50mm Knauf Acoustic ‘C’ Studs should be trimmed to within 5mm of the slab to soffit height.

**Knauf Training Courses**

We offer a range of comprehensive training courses at our purpose-built training schools to ensure the installer is fully up to speed with the latest techniques and regulations. See page 278 for more information.

---

**Easybuild EBR1/13**

<table>
<thead>
<tr>
<th>Sound</th>
<th>Fire*</th>
<th>Max Height**</th>
<th>Width</th>
<th>Impact Duty***</th>
</tr>
</thead>
</table>
| 1 layer of 15mm Knauf Soundshield Plus each side of 50mm Knauf Acoustic ‘C’ Studs at 900mm centres | 40dB(Rw) | 2600mm | 82mm | Medium **   **   Maximum heights calculated based on a limiting deflection of L/240 at 200Pa. **   **   ***  Quotes***  \n
---

For more information, please contact Knauf Technical Services.

---

Knauf Easybuild must be installed in accordance with Knauf’s recommendations and the General

We offer a range of comprehensive training courses at our purpose-built training schools to ensure the installer is fully up to speed with the latest techniques and regulations. See page 278 for more information.

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Knauf Training Courses

We offer a range of comprehensive training courses at our purpose-built training schools to ensure the installer is fully up to speed with the latest techniques and regulations. See page 278 for more information.

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Knauf and You

We offer a range of comprehensive training courses at our purpose-built training schools to ensure the installer is fully up to speed with the latest techniques and regulations. See page 278 for more information.

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Performance

We offer a range of comprehensive training courses at our purpose-built training schools to ensure the installer is fully up to speed with the latest techniques and regulations. See page 278 for more information.

---

System

Specifications

We offer a range of comprehensive training courses at our purpose-built training schools to ensure the installer is fully up to speed with the latest techniques and regulations. See page 278 for more information.

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Our Products

We offer a range of comprehensive training courses at our purpose-built training schools to ensure the installer is fully up to speed with the latest techniques and regulations. See page 278 for more information.

---

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**Knauf Easybuild**

**Application Details**

These details represent some of the design situations relevant to the Knauf Easybuild partition system. Knauf Technical Services can advise on any specific detail you are trying to achieve. The most common details, such as a T-junction are similar to the Knauf Performer range.

---

**Standard detail**

- 50mm Knauf Acoustic ‘C’ Stud at 900mm centres
- 15mm Knauf Soundshield Plus 900mm wide

**Head**

- Suitable fixing at 600mm centres
- 52mm Knauf ‘U’ Channel
- Knauf Sealdant or Knauf Intumescent and Acoustic Mastic
- Knauf Drywall Screws at 400mm centres
- 15mm Knauf Soundshield Plus 900mm wide
- 50mm Knauf Acoustic ‘C’ Stud

**90° Corner**

- Knauf Drywall Screws at 400mm centres
- 15mm Knauf Soundshield Plus 900mm wide
- Stud to stud fixing at 600mm centres
- 50mm Knauf Acoustic ‘C’ Stud at 900mm centres

---

**Doorway, 0–30kg door jamb**

- 52mm Knauf ‘U’ Channel
- Head track secured to structural soffit

**Knauf Water Head Screws at 150mm centres**

- Softwood timber ground

- 52mm Knauf ‘U’ Channel cut and bent and fixed to door jamb stud with Knauf Wafer Head Screws at 150mm centres to meet jamb stud section

- 50mm Knauf Acoustic ‘C’ Stud, full height each side of door opening

---

**Folding**

Forming door head where studs either side of door opening have a timber ground fitted.

1. Bend up
2. Bend up 180°
3. Bend down 180°
Knauf Silent Spacesaver
Knauf Silent Spacesaver gives you the best of both worlds – high acoustic performance and narrow width. The Knauf Silent Spacesaver system is quick to install, lightweight and maximises space within buildings.

Key Features
• Low overall width
• High acoustic performance
• High fire resistance

Silent Spacesaver Partitions
Knauf Silent Spacesaver is ideal in areas where floorspace is at a premium and there is a requirement for a partition to provide a high level of sound reduction.

Jointing
Use Knauf Joint Filler and Knauf Joint Cement Easy Sand to create strong, high-quality joints.

Insulation
Knauf Earthwool Acoustic Roll as specified.

Other Components
Knauf Movement Control Joint is an aluminium ‘V’ section used to bridge gaps left for expansion and contraction.
Knauf Sealant seals gaps, minimises airborne sound transmission.
Knauf Fixing Channel/Knauf Flat Fixing Plate provides fixing for horizontal joints or support for fixtures.
Knauf Sealant applicator to suit 0.9ltr cartridges of Knauf Sealant.

Finishing
Our complete range of finishing products includes hand-applied jointing, plaster and ready-mixed solutions. See our full guide on page 210.

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48 Silent Spacesaver
Knau Silent Spacesaver

Fast track to your optimum solution

1. Choose your sector
2. Find your performance levels
3. Find your solution

Knauf Silent Spacesaver

Silent Spacesaver for Residential Projects

- **Silent Spacesaver SSR1/13**
  - Sound: 60dB(Rw)
  - Fire*: 60mins
  - Max Height**: 3500mm
  - Width: 122mm
  - Impact Duty**: Severe

- **Silent Spacesaver SSR2/13**
  - Sound: 90mins
  - Max Height**: 3500mm
  - Width: 153mm
  - Impact Duty**: Severe

Silent Spacesaver for Commercial Projects

- **Silent Spacesaver SSSC1/13**
  - Sound: 60dB(Rw)
  - Fire*: 60mins
  - Max Height**: 3800mm
  - Width: 122mm
  - Impact Duty**: Severe

- **Silent Spacesaver SSSC2/13**
  - Sound: 90mins
  - Max Height**: 3800mm
  - Width: 152mm
  - Impact Duty**: Severe

Looking for our full Knauf Silent Spacesaver performance tables?

These are Optimised Solutions designed to provide the most effective system to suit the specific performance criteria for that sector.

Should your requirements fall outside these, please see our performance tables in the Appendices section on page 321 or contact our Knauf Technical team on 07950 462659.

Performance you can trust

All Knauf Silent Spacesaver Partitions utilise high-quality, purpose-designed Knauf Plasterboards, Knauf Studs and Channel and Knauf Accessories. These components are carefully matched to realise the performances detailed below and are tested together as a whole system.

Insisting on genuine Knauf components throughout will ensure your Knauf Silent Spacesaver Partition is fully covered by our performance warranty.

Silent Spacesaver for Healthcare Projects

- **Silent Spacesaver SSH1/13**
  - Sound: 60dB(Rw)
  - Fire*: 90mins
  - Max Height**: 3800mm
  - Width: 132mm
  - Impact Duty**: Severe

- **Silent Spacesaver SSH2/13**
  - Sound: 90mins
  - Max Height**: 3800mm
  - Width: 152mm
  - Impact Duty**: Severe

---

** Maximum height calculated based on a limiting deflection of L/240 at 200Pa.
† If 120 mins fire resistance is required, 2 layers of 15mm Fire Panel/Impact Panel should be used. For adjustments in acoustic performance please contact Knauf Technical Services.
Knauf Silent Spacesaver

Installation Procedures

Perimeter Framing 1,2
Knauf 'U' Channels should be used for the head and base of the partition and to form any abutments. Bed the Knauf 'U' Channels on two continuous beads of Knauf Sealant and secure with Knauf Nailable Plugs or suitable fixings at maximum 600mm centres and 50mm from ends of channels or studs. Separate studs and channels forming the perimeter need not be joined, but should be tightly butted together.

Partitions should always run full height to the structural soffit where possible.

Vertical Studs 3,4
Knauf 'I' Studs together with the Knauf Staggered Stud Clips should be positioned within the 'U' Channel at 300mm centres and arranged to achieve a stagger from within the Knauf 'U' Channel to coincide with the abutments of the boards, which will be fixed later. In general, there is no requirement to secure the metal at this point as this will be achieved once the boards are screw-fixed.

Knauf 'I' Studs should be trimmed to within 5mm of the slab to soffit height.

Insulation 5
Once the studs have been located in the Knauf 'U' Channel and one side has been boarded, the insulation can be fitted either between the studs or wound through the studs depending on thickness. Care should be taken to ensure that the insulation is fitted neatly without gaps at abutments or horizontally between different rolls. See detail 07 on page 57 for alternative insulation installation options.

Boarding 6
All boards should be offered up to the frame with the face of the board outwards. The inner layer of boards should be offered up to the frame and fixed with Knauf Self Drilling or Jackpoint Self Drilling Screws (ensuring 10mm penetration into the stud) at 300mm centres and reduced to 200mm centres at external corners. Boarding should commence at one end fixed vertically and across the partition. The boards should be trimmed to fit accurately to abutments and the head and base, and should be tightly butted together over the centre of the stud faces. The outer layer of boards should be staggered and screw-fixed to the frame vertically with Knauf Self Drilling or Jackpoint Self Drilling Screws.

Knauf Performance Plus is used for the outer layer in areas of high humidity, such as bathroom and kitchen areas.

Knauf Training Courses
Knauf offer a range of comprehensive training courses at our purpose-built training schools to ensure the installer is fully up to speed with the latest techniques and regulations. See page 276 for more information.
Knauf Silent Spacesaver

Head detail

Knauf Sealant or Knauf Intumescent and Acoustic Mastic
Knauf Staggered Stud Clip
Knauf ‘U’ Channel
Knauf Soundshield Plus to suit specification
Knauf insulation to suit specification

Suitable fixing at 600mm centres

Abutment

Knauf Soundshield Plus
Knauf Staggered Stud Clip
Knauf ‘U’ Stud
Knauf Drywall Screws at 300mm centres
Knauf insulation to suit specification

Deflection head, up to 60 minutes fire resistance

Knauf Plasterboard fillets to suit deflection allowance and fire rating, securing 10mm minimum board overlap
Knauf Sealant
Knauf Staggered Stud Clip
Knauf Deep-Range ‘U’ Channel
Knauf Drywall Screws at 300mm centres
Knauf Flat Fixing Plate
Knauf insulation to suit specification

Where you see these icons in a detail, that detail is particularly relevant to that sector.
Knauf Silent Spacesaver

90° corner

Detail 5

- Knauf Y Stud
- Knauf C' Stud
- Knauf Soundshield Plus
- Knauf insulation as specified
- Knauf Drywall Screws at 300mm centres

Splayed corner

Detail 6

- Knauf Staggered StudClip
- Knauf Soundshield Plus
- Knauf C' Stud at corners and abutments
- Knauf Y Stud
- Suitable fixing at maximum 500mm centres
- Shaped timber packer

Alternative insulation installation options

Detail 7

- 25mm Knauf Earthwool Acoustic Roll, 60mm Knauf Y Studs within 72mm Knauf U' Channel
- 50mm Knauf Earthwool Acoustic Roll, 60mm Knauf Y Studs within 72mm Knauf U' Channel
- 50mm Knauf Earthwool Acoustic Roll, 92mm Knauf Y Studs within 148mm Knauf U' Channel

Where you see these icons in a detail, that detail is particularly relevant to that sector.
Knauf Silent Spacesaver

Doorway, 0–60kg door jamb

Knauf Staggered Stud Clip
Knauf 'T' Stud
Additional screws positioned 150mm from door jamb stud
Knauf Deep Flange 'U' Channel section to each side of door opening fitted between returned legs at door head and base

Doorway, 60–100kg door jamb

Knauf Staggered Stud Clip
Knauf 'T' Stud
Additional stud and screws positioned 150mm from door jamb stud
Knauf Deep Flange 'U' Channel (70mm flange) section to each side of door opening fitted between returned legs at door head and base

Generate specifications at www.knauf.co.uk
**Knauf Isolator**
The Knauf Isolator system’s twin frames provide separation which, combined with high-performance Knauf Plasterboards and Knauf insulation, realise exceptional acoustic sound reduction of up to 76dB(Rw).

**Key Features**
- High acoustic properties
- Vertical service runs are easily accommodated within the metal framework
- Suitable for impact duty requirements up to Severe Duty

**Isolator Partitions**
Knauf Isolator can be used in the residential or commercial sectors to provide the best possible sound isolation and privacy while enjoying all the benefits of dry wall construction.

**Other Components**
- Knauf Movement Control Joint is an aluminium ‘V’ section used to bridge gaps left for expansion and contraction.
- Knauf Sealant seals gaps, minimises airborne sound transmission.

**Finishing**
- Knauf Fixing Channel/Knauf Flat Plate provides fixing for horizontal joints or support for fixtures.

**Jointing**
- Knauf Joint Cement Lite Easy Sand provides a smooth finish with the minimum of effort.

**Fixings**
- Knauf Screws are self-drilling and self-tapping and are designed to work perfectly with Knauf Plasterboards.

**Knauf Plasterboard**
The full range of acoustic, fire resistant, moisture resistant and impact resistant boards to provide performance and design solutions.

**Stud**
The full range of acoustic, fire resistant, moisture resistant and impact resistant boards to provide performance and design solutions.

**Angle Sections**
Knauf Angle Sections are used to retain mineral wool packing in deflection head details.

**Floor Track**
Knauf ‘U’ Channel secured to floor.

**Head Track**
Knauf ‘U’ Channel secured to soffit forms head plate.

**Deep Flange ‘U’ Channel**
Knauf Deep Flange ‘U’ Channel is used when constructing a deflection head detail.

**Generate specifications at www.knauf.co.uk**
Isolator for Residential Projects

**Isolator ILR1/13**
- Sound: 63dB
- Fire: 90mins
- Max Height: 2600mm
- Width: 170mm
- Impact Duty: Severe

Ingredients:
- 2 layers of 15mm Knauf Soundshield Plus each side of 30mm Knauf 'C' Studs at 600mm centres with 2 layers of 25mm Knauf Earthwool Acoustic Roll within cavity

**Isolator ILR2/13**
- Sound: 63dB
- Fire: 90mins
- Max Height: 3100mm
- Width: 170mm
- Impact Duty: Severe

Ingredients:
- 2 layers of 15mm Knauf Soundshield Plus each side of 50mm Knauf 'I' Studs at 600mm centres with 2 layers of 25mm Knauf Earthwool Acoustic Roll within cavity

**Isolator ILR3/13**
- Sound: 65dB
- Fire: 90mins
- Max Height: 3000mm
- Width: 210mm
- Impact Duty: Severe

Ingredients:
- 2 layers of 15mm Knauf Soundshield Plus each side of 70mm Knauf 'C' Studs at 600mm centres with 2 layers of 25mm Knauf Universal Slab RS33 insulation within cavity

**Isolator ILR4/13**
- Sound: 45dB
- Fire: 60mins
- Max Height: 3000mm
- Width: 250mm
- Impact Duty: Severe

Ingredients:
- 2 layers of 12.5mm Knauf Soundshield Plus each side of 70mm Knauf 'C' Studs at 600mm centres with 50mm of Knauf Universal Slab RS33 insulation within cavity


Isolator for Commercial Projects

**Isolator ILC1/13**
- Sound: 65dB
- Fire: 90mins
- Max Height: 4300mm
- Width: 210mm
- Impact Duty: Severe

Ingredients:
- 2 layers of 15mm Knauf Soundshield Plus each side of 70mm Knauf 'I' Studs at 600mm centres with 2 layers of 25mm Knauf Earthwool Acoustic Roll within cavity

**Isolator ILC2/13**
- Sound: 69dB
- Fire: 90mins
- Max Height: 5700mm
- Width: 300mm
- Impact Duty: Severe

Ingredients:
- 2 layers of 15mm Knauf Soundshield Plus each side of 92mm Knauf 'I' Studs at 600mm centres with 100mm Knauf Mineral Wool (min. 10kg/m³) within cavity

**Isolator ILC3/13**
- Sound: 75dB
- Fire: 120mins
- Max Height: 5700mm
- Width: 550mm
- Impact Duty: Severe

Ingredients:
- 3 layers of 15mm Knauf Soundshield Plus each side of 92mm Knauf 'I' Studs at 600mm centres with 100mm Knauf Mineral Wool (min. 10kg/m³) within cavity

**Isolator ILC4/13**
- Sound: 76dB
- Fire: 120mins
- Max Height: 5700mm
- Width: 550mm
- Impact Duty: Severe

Ingredients:
- 3 layers of 15mm Knauf Soundshield Plus each side of 92mm Knauf 'I' Studs at 600mm centres with 2 layers of 100mm Knauf Mineral Wool (min. 10kg/m³) within cavity


Maximum height calculated based on a limiting deflection of L/240 at 200Pa.

Impact Duty in accordance with BS 5234: Part 2: 1992 Annexes B,C,D,E.
Knauf Isolator

Installation Procedures

Knauf Isolator partitions are designed to be simple and fast to install. Knauf Technical Services are on hand should you have any questions or unusual situations to deal with.

General

Knauf Isolator partitions must be installed in accordance with Knauf’s recommendations and the recommendations of BS 8212: 1995 and BS 8000: Part 8: 1994.

Perimeter Framing 1, 2

Knauf ‘U’ Channels should be used for the head and base of the partition. Knauf ‘C’ Studs should be used to form any abutments and to frame openings. Bed each section on two continuous beads of Knauf Sealant and secure with Knauf Nailable Plugs or suitable fixings at maximum 600mm centres and 50mm from ends of channels or studs. Separate studs and channels forming the perimeter need not be joined, but should be tightly butted together. Replace Knauf ‘U’ Channel with Knauf Deep Flange ‘U’ Channel when forming a deflection head.

Partitions should always run full height up to the structural soffit.

Vertical Studs 3

Studs should be positioned within the channels to coincide with the abutments of the boards, which will be fixed later. The centres (either 300, 400 or 600mm) depend on the performance requirements.

The studs of the separate frames may require bracing using Knauf Fixing Channel, and acoustic bracing (by others), at maximum 1500mm centres, depending on the height of the partition – please check with Knauf Technical Services.

Knauf ‘C’ Studs can be extended by forming an overlap, boxing them at that point and securing them with Knauf Wafer Head Jackpoint Screws. The overlap must be at least 600mm.

Insulation 4

Once the studs have been located in the Knauf ‘U’ Channels and one side has been boarded, the specified Knauf insulation can be inserted between the studs horizontally. Care should be taken to ensure that the insulation is fitted neatly without gaps at abutments or horizontally between different rolls.

Support for Horizontal Joints in Facings

To back horizontal joints in outer board layers, Knauf Fixing Channel or Knauf Flat Fixing Plate should be fitted across the face of all studs, secured with 2 Knauf Wafer Head Jackpoint Screws per stud to both faces.

Doorways

The head is formed with Knauf Deep Flange ‘U’ Channel, bent back and screw-fixed with Knauf Wafer Head Jackpoint Screws to the studs.

Boarding 5, 6, 7, 8

All boards should be offered up to the frame with the face of the board outwards, and secured with Knauf Screws at 300mm centres. Fixing centres should be reduced to 200mm at corners.

Boarding should commence at one end and work across the partition. At head, foot and abutments, board edges should be bedded onto continuous beads of Knauf Sealant. Board joints in multiple layers should be staggered both vertically and horizontally by 600mm. Tape and joint for a seamless finish, and finish using Knauf Plaster.

Knauf Training Courses

We offer a range of comprehensive training courses at our purpose-built training schools to ensure the installer is fully up to speed with the latest techniques and regulations. See page 276 for more information.

Generate specifications at www.knauf.co.uk
Knauf Isolator
Application Details

These details represent some of the most common design situations relevant to the Knauf Isolator partition system. Knauf Technical Services can advise on any specific detail you are trying to achieve.

Plan Detail 1

Knauf Plasterboard to suit specification
Knauf Drywall Screws at 300mm centres

Exposed joints taped and pointed
Twin frames of Knauf ‘C’ Studs at 600mm centres
Knauf insulation as specified

Deflection head, 90 minutes fire resistance

Knauf Nailable Plug or suitable fixing at 500mm centres
Knauf Intumescent and Acoustic Mastic
Knauf Plasterboard Hats to suit deflection allowance and fire rating, ensuring 10mm minimum overlap
Knauf Deep Flange ‘U’ Channel
Continuous Knauf Flat Fixing Plate
Knauf plasterboard to suit specification

Note: Maximum deflection to be no more than half the flange length in a downward direction.

Head detail Detail 2

Knauf Intumescent and Acoustic Mastic
Knauf ‘U’ Channel
Knauf ‘C’ Stud
Knauf insulation as specified
Knauf Plasterboard to suit specification

Deflection head, 120 minutes fire resistance

Knauf Nailable Plug or suitable fixing at 500mm centres
Knauf Intumescent and Acoustic Mastic
Knauf Fire Panel Hats to suit deflection allowance and fire rating ensuring 10mm minimum overlap
Knauf Deep Flange ‘U’ Channel
Continuous Knauf Flat Fixing Plate
Knauf plasterboard to suit specification

25 x 50mm Knauf Angle Section
Knauf Universal Slab RS60
Knauf insulation as specified
Knauf Drywall Screws at 300mm centres

Note: Maximum deflection to be no more than half the flange length in a downward direction.
Abutment

- Knauf Drywall Screws at 300mm centres
- Knauf Insulation to suit specification
- Knauf Plasterboard to suit specification
- Twin Knauf 'C' Studs

90° corner

Fixings at the junctions should be made from stud to stud. Extra studs or channels should be included if required.

- Knauf Drywall Screws at 300mm centres
- Knauf Insulation as specified
- Knauf Plasterboard to suit specification
- Knauf 'C' or 'I' Studs to suit specification

Splayed corner

- Knauf Drywall Screws at 300mm centres
- Knauf Insulation as specified
- Knauf Plasterboard to suit specification
- Shaped timber inserts to suit
- Twin Knauf 'C' Studs

T-junction

Fixings at the junction should be made from stud to stud. Extra studs should be included if required.

- Knauf Drywall Screws at 300mm centres
- Knauf Insulation as specified
- Knauf Plasterboard to suit specification
- Knauf 'C' or 'I' Studs to suit specification

Generate specifications at www.knauf.co.uk
**T-junction**

- Knauf insulation as specified
- Knauf Drywall Screws at 300mm centres
- Knauf Insulation as specified
- Knauf Plasterboard to suit specification

**Doorway, 0–60kg door jamb**

- Knauf Deep Flange ‘U’ Channel section to each side of door opening fitted between returned legs at door head and base
- Knauf ‘C’ Stud
- Additional screws positioned 150mm from door jamb stud

**Doorway, 60–100kg door jamb**

- Knauf Deep Flange ‘U’ Channel (70mm flange) section to each side of door opening fitted between returned legs at door head and base
- Two pairs of fixings: one pair at jamb stud base; one pair at 150mm from door jamb. Remainder of Knauf ‘U’ Channel secured at 600mm centres
- Knauf ‘C’ or ‘I’ Stud
- Additional stud position 150mm from door jamb stud

Where you see these icons in a detail, that detail is particularly relevant to that sector.
Knauf Shaftwall

Knauf Shaftwall is our innovative system to form enclosures around service and lift shafts while working from one side. The unique Knauf ‘C-T’ Stud makes this possible with a minimum of components.

**Key Features**
- Quickly constructed from one side
- Up to 2 hours fire resistance
- Robust
- Proven in tall buildings across the UK
- Uses our unique and clever Knauf ‘C-T’ Stud

**Finishing**

**Other Components**
- Knauf Movements Control Joint: an aluminium ‘V’ section used to bridge gaps left for expansion and contraction.
- Knauf Sealant: seals gaps, minimises airborne sound transmission.
- Knauf Fixing Channel: provides fixing for horizontal joints or support for fixtures.
- Knauf Core Board Channel: used to provide fixing for horizontal Core Board joints.

**Our range of Partition Solutions includes:**
- Performer: 16
- Easybuild: 42
- Silent Spacesaver: 48
- Isolator: 60

Generate specifications at www.knauf.co.uk

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**Contents**
- Wall Linings
- Finishes
- System Specification
- Our Products
- Knauf and You
- Performance Tables
- Index

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**Shaftwall Partitions**

Knauf Shaftwall is perfect for all situations where access from one side is restricted, giving a high fire performance while being simple to construct.
Knauf Shaftwall
Fast track to your optimum solution

1 Choose your sector
   - Residential
   - Commercial
   - Education
   - Healthcare

2 Find your performance levels
   - Sound
   - Dimensions
   - Fire
   - Impact Duty

3 Find your solution

Please note – you can find our full range of Shaftwall Solutions in the Appendix on page 321.

Shaftwall solutions

Shaftwall SW1/13

<table>
<thead>
<tr>
<th>Sound</th>
<th>Fire</th>
<th>Max Height</th>
<th>Width</th>
<th>Impact Duty</th>
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<td>46dB(Rw)</td>
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Shaftwall SW2/13

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<td>45dB(Rw)</td>
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Shaftwall SW3/13

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<td>92mm</td>
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Shaftwall SW4/13

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Shaftwall SW5/13

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<td>45dB(Rw)</td>
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Shaftwall SW6/13

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<tbody>
<tr>
<td>46dB(Rw)</td>
<td>120mm</td>
<td>5000mm</td>
<td>92mm</td>
<td>Severe</td>
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</tbody>
</table>

Shaftwall SW7/13

- 1 layer of 15mm Knauf Fire Panel attached to non-shaft side of 60mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs
- 2 layers of 15mm Knauf Fire Panel attached to non-shaft side of 60mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs
- 1 layer of 15mm Knauf Fire Panel attached to non-shaft side of 60mm Knauf 'C-T' Studs at 600mm centres, with 25mm Knauf Earthwool Acoustic Roll within cavity

Shaftwall SW8/13

- 1 layer of 15mm Knauf Fire Panel attached to non-shaft side of 60mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs
- 2 layers of 12.5mm Knauf Fire Panel attached to non-shaft side of 60mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs
- 1 layer of 15mm Knauf Fire Panel attached to non-shaft side of 60mm Knauf 'C-T' Studs at 600mm centres, with 25mm Knauf Earthwool Acoustic Roll within cavity

Shaftwall SW9/13

- 1 layer of 15mm Knauf Fire Panel attached to non-shaft side of 60mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs
- 2 layers of 12.5mm Knauf Fire Panel attached to non-shaft side of 60mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs
- 1 layer of 15mm Knauf Fire Panel attached to non-shaft side of 60mm Knauf 'C-T' Studs at 600mm centres, with 25mm Knauf Earthwool Acoustic Roll within cavity

Shaftwall SW10/13

- 1 layer of 15mm Knauf Fire Panel attached to non-shaft side of 60mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs
- 2 layers of 12.5mm Knauf Fire Panel attached to non-shaft side of 60mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs, with 25mm Knauf Earthwool Acoustic Roll within cavity

Shaftwall SW11/13

- 1 layer of 15mm Knauf Fire Panel attached to non-shaft side of 60mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs
- 2 layers of 12.5mm Knauf Fire Panel attached to non-shaft side of 60mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs, with 25mm Knauf Earthwool Acoustic Roll within cavity

Shaftwall SW12/13

- 1 layer of 15mm Knauf Fire Panel attached to non-shaft side of 60mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs
- 2 layers of 12.5mm Knauf Fire Panel attached to non-shaft side of 60mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs, with 25mm Knauf Earthwool Acoustic Roll within cavity

Performance you can trust
All Knauf Shaftwall partitions utilise high-quality, purpose-designed Knauf plasterboards, Knauf Studs and Channel and Knauf Accessories. These components are carefully matched to realise the performance detailed below and are tested together as a whole system.

In insisting on genuine Knauf components throughout will ensure your Knauf Shaftwall Partition is fully covered by our performance warranty.

Performance ratings in accordance with EN 364-1: 1999, please contact Knauf Technical Services.

Maximum height calculated based on a limiting deflection of L/240 at 200Pa.

Knauf Shaftwall optimised solutions

These are our Optimised Solutions; should your requirements fall outside these then please contact our Knauf Technical team who can provide detailed specification guidance for your project.

Knauf Technical Services: 01795 416259.
### Shaftwall solutions (continued)

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<th>Max Height**</th>
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<tbody>
<tr>
<td>1 layer of 15mm Knauf Fire Panel attached to non-shaft side of 146mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs</td>
<td>46dB(A)</td>
<td>60mins</td>
<td>7600mm</td>
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<td>2 layers of 12.5mm Knauf Fire Panel attached to non-shaft side of 146mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs</td>
<td>45dB(A)</td>
<td>90mins</td>
<td>7900mm</td>
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<tr>
<td>2 layers of 15mm Knauf Fire Panel attached to non-shaft side of 146mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs</td>
<td>45dB(A)</td>
<td>120mins</td>
<td>8000mm</td>
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<tr>
<td>1 layer of 15mm Knauf Fire Panel attached to non-shaft side of 146mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs, with 25mm Knauf Earthwool Acoustic Roll within cavity</td>
<td>46dB(A)</td>
<td>60mins</td>
<td>7400mm</td>
<td>163mm</td>
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<td>2 layers of 12.5mm Knauf Fire Panel attached to non-shaft side of 146mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs, with 25mm Knauf Earthwool Acoustic Roll within cavity</td>
<td>50dB(A)</td>
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<td>2 layers of 15mm Knauf Fire Panel attached to non-shaft side of 146mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs, with 25mm Knauf Earthwool Acoustic Roll within cavity</td>
<td>50dB(A)</td>
<td>120mins</td>
<td>8000mm</td>
<td>178mm</td>
<td>Severe</td>
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* Fire ratings quoted in accordance with BS 476: Part 22: 1987 (Integrity only). The temperature of the exposed flanges of the 'C-T' Stud may exceed the requirements of BS 476: Part 22: 1987 within the quoted fire test period. Relaxation should be sought from the approving Authority on the basis that no combustible materials are likely to be stored adjacent to the structure where the full insulation period is required. For ratings in accordance with EN 1364-1: 1999, please contact Knauf Technical Services.

** Maximum height calculated based on a limiting deflection of L/240 at 200Pa.

*** Impact Duty rated in accordance with BS 5234: Part 2: 1992 Annexes B,C,D,E.

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Please note – you can find our full range of Shaftwall Solutions in the Appendix on page 321.

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Shaftwall solutions (continued)
Flange

Replace Knauf ‘J’ Channel with a Knauf Deep perimeter do not need to be joined, but should be channels or studs. Separate channels forming the maximum 600mm centres and 50mm from ends of Acoustic Mastic and secure with suitable fixings at two continuous beads of Knauf Intumescent and base and any abutments. Bed each section onto Knauf ‘J’ Channels should be used for the head, Perimeter Framing 1,2 BS 8212: 1995 and BS 8000: Part 8: 1994. Generate specifications at www.knauf.co.uk

Flange

Recommendations and the recommendations of must be installed in accordance with Knauf’s Knauf Shaftwall and Firefighting Shaftwall General

are on hand should you have any questions or unusual situations to deal with.

Installation Procedures

Knauf Shaftwall partitions are designed to be simple and fast to install. Knauf Technical Services Installation Procedures

are repeated until one side of the shaftwall is complete. Fixing of the Knauf Core Board should commence at one end and work across the shaftwall. Cut the first Knauf Core Board to fit into the Knauf ‘J’ Channel frame. Pull out tabs in the flange of the ‘J’ Channel at right angles to retain the Knauf Core Board. You may require a length of timber to gently tap the stud into place, as it is designed to be a tight fit. The next Knauf Core Board is fitted into the ‘CT’ Stud and the process is repeated until one side of the shaftwall is complete. For airtight shafts, apply Knauf Sealant to the Knauf Core Board edges prior to installation.

Insulation (if required)

Once the ‘CT’ studs have been located in the Knauf ‘J’ Channels and Knauf Core Board has been inserted, Knauf Earthwool Acoustic Roll can be inserted between the studs vertically. Care should be taken to ensure that the insulation is fitted neatly without gaps at abutments or vertically between different rolls.

Support for Horizontal Joints in Facings

For the Knauf Fire Panel decorative facing, Knauf Fixing Channel or Knauf Flat Fixing Plate should be fitted across the face of all studs secured with 2 Knauf Wafer Head Jackpoint Screws per stud to back the horizontal joints.

Doorways

The head is formed with Knauf ‘J’ Channel bent and screw-fixed with Knauf Wafer Head Jackpoint Screws to Knauf Deep Flange ‘U’ Channels. For doors weighing up to 50kg, Knauf Deep Flange ‘U’ Channels are used for the frame openings inserted with treated timber of 50mm thickness, cut to the size of the stud.

Boarding 3,4,5,6,7

Installation of the Knauf Core Board should commence at one end and work across the shaftwall. Cut the first Knauf Core Board to fit into the Knauf ‘J’ Channel frame. Pull out tabs in the flange of the ‘J’ Channel at right angles to retain the Knauf Core Board. You may require a length of timber to gently tap the stud into place, as it is designed to be a tight fit. The next Knauf Core Board is fitted into the ‘CT’ Stud and the process is repeated until one side of the shaftwall is complete. For airtight shafts, apply Knauf Sealant to the Knauf Core Board edges prior to installation.

For joints in the Knauf Core Board, install Knauf Core Board Channel to the top edge of the Knauf Core Board and screw-fix 150mm wide Core Board strip across the joints into the Core Board Channel. See detail 12 on page 85.

All other boards should be offered up to the frame with the face of the board outwards and secured with Knauf Screws at 300mm centres. Fixing centres should be reduced to 200mm at corners.

Boarding should commence at one end and work across the partition. At head, base and abutments, board edges should be bedded onto continuous beads of Knauf Sealant. Board joints in multiple layers should be staggered both vertically and horizontally by a minimum of 600mm.

Tape and joint for a seamless finish.

Firefighting Shafts

When constructing a firefighting lift shaft, Knauf Performance Plus is used, as it is highly durable and able to withstand the effects of impact and water, to which it would be subjected during a fire, without losing its fire resistance or integrity when tested to BS 9999: 2008. This means that fire crews maintain protected access to all floors within the building.

For joints in the Knauf Core Board, install Knauf Core Board Channel to the top edge of the Knauf Core Board and screw-fix 150mm wide Core Board strip across the joints into the Core Board Channel. See detail 12 on page 85. All other boards should be offered up to the frame with the face of the board outwards and secured with Knauf Screws at 300mm centres. Fixing centres should be reduced to 200mm at corners. Boarding should commence at one end and work across the partition. At head, base and abutments, board edges should be bedded onto continuous beads of Knauf Sealant. Board joints in multiple layers should be staggered both vertically and horizontally by a minimum of 600mm.

Tape and joint for a seamless finish.

Insulation (if required)

Once the ‘CT’ studs have been located in the Knauf ‘J’ Channels and Knauf Core Board has been inserted, Knauf Earthwool Acoustic Roll can be inserted between the studs vertically. Care should be taken to ensure that the insulation is fitted neatly without gaps at abutments or vertically between different rolls.

Support for Horizontal Joints in Facings

For the Knauf Fire Panel decorative facing, Knauf Fixing Channel or Knauf Flat Fixing Plate should be fitted across the face of all studs secured with 2 Knauf Wafer Head Jackpoint Screws per stud to back the horizontal joints.

Doorways

The head is formed with Knauf ‘J’ Channel bent and screw-fixed with Knauf Wafer Head Jackpoint Screws to Knauf Deep Flange ‘U’ Channels. For doors weighing up to 50kg, Knauf Deep Flange ‘U’ Channels are used for the frame openings inserted with treated timber of 50mm thickness, cut to the size of the stud.

Boarding 3,4,5,6,7

Installation of the Knauf Core Board should commence at one end and work across the shaftwall. Cut the first Knauf Core Board to fit into the Knauf ‘J’ Channel frame. Pull out tabs in the flange of the ‘J’ Channel at right angles to retain the Knauf Core Board. You may require a length of timber to gently tap the stud into place, as it is designed to be a tight fit. The next Knauf Core Board is fitted into the ‘CT’ Stud and the process is repeated until one side of the shaftwall is complete. For airtight shafts, apply Knauf Sealant to the Knauf Core Board edges prior to installation.

For joints in the Knauf Core Board, install Knauf Core Board Channel to the top edge of the Knauf Core Board and screw-fix 150mm wide Core Board strip across the joints into the Core Board Channel. See detail 12 on page 85.

All other boards should be offered up to the frame with the face of the board outwards and secured with Knauf Screws at 300mm centres. Fixing centres should be reduced to 200mm at corners. Boarding should commence at one end and work across the partition. At head, base and abutments, board edges should be bedded onto continuous beads of Knauf Sealant. Board joints in multiple layers should be staggered both vertically and horizontally by a minimum of 600mm.

Tape and joint for a seamless finish.

Firefighting Shafts

When constructing a firefighting lift shaft, Knauf Performance Plus is used, as it is highly durable and able to withstand the effects of impact and water, to which it would be subjected during a fire, without losing its fire resistance or integrity when tested to BS 9999: 2008. This means that fire crews maintain protected access to all floors within the building.

For joints in the Knauf Core Board, install Knauf Core Board Channel to the top edge of the Knauf Core Board and screw-fix 150mm wide Core Board strip across the joints into the Core Board Channel. See detail 12 on page 85.

All other boards should be offered up to the frame with the face of the board outwards and secured with Knauf Screws at 300mm centres. Fixing centres should be reduced to 200mm at corners. Boarding should commence at one end and work across the partition. At head, base and abutments, board edges should be bedded onto continuous beads of Knauf Sealant. Board joints in multiple layers should be staggered both vertically and horizontally by a minimum of 600mm.

Tape and joint for a seamless finish.

For joints in the Knauf Core Board, install Knauf Core Board Channel to the top edge of the Knauf Core Board and screw-fix 150mm wide Core Board strip across the joints into the Core Board Channel. See detail 12 on page 85. All other boards should be offered up to the frame with the face of the board outwards and secured with Knauf Screws at 300mm centres. Fixing centres should be reduced to 200mm at corners. Boarding should commence at one end and work across the partition. At head, base and abutments, board edges should be bedded onto continuous beads of Knauf Sealant. Board joints in multiple layers should be staggered both vertically and horizontally by a minimum of 600mm.

Tape and joint for a seamless finish.

Firefighting Shafts

When constructing a firefighting lift shaft, Knauf Performance Plus is used, as it is highly durable and able to withstand the effects of impact and water, to which it would be subjected during a fire, without losing its fire resistance or integrity when tested to BS 9999: 2008. This means that fire crews maintain protected access to all floors within the building.

For joints in the Knauf Core Board, install Knauf Core Board Channel to the top edge of the Knauf Core Board and screw-fix 150mm wide Core Board strip across the joints into the Core Board Channel. See detail 12 on page 85. All other boards should be offered up to the frame with the face of the board outwards and secured with Knauf Screws at 300mm centres. Fixing centres should be reduced to 200mm at corners. Boarding should commence at one end and work across the partition. At head, base and abutments, board edges should be bedded onto continuous beads of Knauf Sealant. Board joints in multiple layers should be staggered both vertically and horizontally by a minimum of 600mm.

Tape and joint for a seamless finish.

Firefighting Shafts

When constructing a firefighting lift shaft, Knauf Performance Plus is used, as it is highly durable and able to withstand the effects of impact and water, to which it would be subjected during a fire, without losing its fire resistance or integrity when tested to BS 9999: 2008. This means that fire crews maintain protected access to all floors within the building.
Knauf Shaftwall

Application Details

These details represent some of the most common design situations relevant to the Knauf Shaftwall partition system. Knauf Technical Services can advise on any specific detail you are trying to achieve.

Standard head and base

This detail is used where the structural soffit is rigid and no allowance is needed for vertical deflection. Channels and boards should be bedded onto continuous beads of Knauf Intumescent and Acoustic Mastic to ensure efficient sound reduction by sealing air paths.

Deflection head detail, up to 120 minutes fire resistance

Suitable fixings at 600mm centres

- Knauf Intumescent and Acoustic Mastic
- Knauf Universal Slab RS60
- Knauf Deep Flange 'U' Channel
- Tabs snipped and bent in Knauf Deep Flange 'U' Channel
- Between studs to retain mineral wool packing to head
- Knauf Core Board
- Knauf 'C-T' Stud
- Knauf Flat Fixing Plate

Alternative deflection head detail, up to 120 minutes fire resistance

Suitable fixings at 600mm centres

- Knauf Intumescent and Acoustic Mastic
- Knauf Deep Flange 'U' Channel
- Tabs snipped and bent in Knauf Deep Flange 'U' Channel
- Between studs to retain insulation packing to head
- Knauf Core Board
- Knauf Drywall Screws at 300mm centres
- Knauf Flat Fixing Plate
- Knauf Drywall Screws at 300mm centres
- Knauf 'C-T' Stud
- Knauf Universal Slab RS60
- Knauf Intumescent and Acoustic Mastic
- Knauf Fire Panel, Knauf Performance Plus or Knauf Impact Panel
- Layers of Knauf Core Board or Knauf Fire Panel to suit deflection and fire rating, ensuring 10mm minimum overlap
- Knauf Core Board
- Knauf Drywall Screws at 300mm centres
- Knauf 'C-T' Stud to suit specification
- Pull up tabs in Knauf 'J' Channel
- Knauf Drywall Screws at 300mm centres
- Knauf Jackpoint Screws at 300mm centres
- Knauf 'C-T' Stud
- Knauf Flat Fixing Plate
- Knauf Core Board
- Suitable fixings at 600mm centres
Knauf Shaftwall

Abutment
Abutments are formed similarly to the floor detail.

1. Knauf 'J' Channel
2. Knauf Core Board
3. Knauf Intumescent and Acoustic Mastic
4. Knauf Jackpoint screws at 300mm centres

Details 4

Door jamb
Suitable for doors weighing up to 60kg. A box section formed from a Knauf 'C-T' Stud and Knauf Deep Flange 'U' Channel forms the jamb.

1. Knauf Coreboard
2. Knauf Jackpoint Screws
3. Knauf Intumescent and Acoustic Mastic
4. Knauf Deep Flange 'U' Channel fixed along length of Knauf 'C-T' Stud to underside of Knauf 'J' Channel
5. Fire resistant door frame (by others)
6. Timber ground
7. Knauf Drywall screws at maximum 200mm centres at opening for door frame
8. Two pairs of fixings: one pair at jamb stud base, one pair at 150mm from door jamb remainder

Details 5

Corner 90°
Fixing at the junction should be made from 'J' Channel to 'J' Channel.

1. Knauf 'C-T' Stud at 600mm centres
2. Knauf Core Board
3. Knauf Jackpoint Screws at max. 300mm centres
4. Knauf Fire Panel, Knauf Performance Plus or Knauf Impact Panel
5. Knauf 'J' Channel screw-fixed together at 600mm centres
6. Pull-down tabs in the Knauf 'J' Channel to retain the Core Board

Details 6

Splayed corner

1. Knauf 'C-T' Stud
2. Knauf Fire Panel, Knauf Performance Plus or Knauf Impact Panel
3. Knauf Core Board
4. Knauf Flat Fixing Plate forming angle
5. Knauf Universal Slab R560
6. Knauf 'J' Channel

Details 7

Generate specifications at www.knauf.co.uk

Where you see these icons in a detail, that detail is particularly relevant to that sector.
Pipe penetration

Suitable for small pipes – typically up to 40mm diameter. The mineral wool must be secured around the pipe with wire or mesh.

Note: Check with pipe manufacturer that pipe material is compatible with Knauf Intumescent and Acoustic Mastic.

Duct penetration

Suitable for small pipes – typically up to 40mm diameter. The mineral wool must be secured around the pipe with wire or mesh.

Note: Check with pipe manufacturer that pipe material is compatible with Knauf Intumescent and Acoustic Mastic.

Note:

Check with pipe manufacturer that pipe material is compatible with Knauf Intumescent and Acoustic Mastic.

Stud splicing

Whenever possible, full height Knauf ‘C’ Studs should be used. If splicing is necessary, then this detail incorporating Knauf ‘C’ Studs or Knauf ‘U’ Channels should be used.

Joists should be staggered vertically; the Knauf ‘C’ Stud sizes listed below should be used for the Knauf ‘C-T’ Studs indicated.

<table>
<thead>
<tr>
<th>Size</th>
<th>‘C’ Stud</th>
<th>Use ‘C’ Stud</th>
</tr>
</thead>
<tbody>
<tr>
<td>60mm</td>
<td>30mm*</td>
<td></td>
</tr>
<tr>
<td>92mm</td>
<td>50mm</td>
<td></td>
</tr>
<tr>
<td>146mm</td>
<td>92mm</td>
<td></td>
</tr>
</tbody>
</table>

* Knauf Apertura ‘U’ Channel should be used.

Knauf Shaftwall Partition

For PVC pipes, with a diameter of up to 160mm, a Fire Collar is fixed to both sides in accordance with the manufacturer’s recommendations.

Note: Check with pipe manufacturer that pipe material is compatible with Knauf Intumescent and Acoustic Mastic.

Knauf Shaftwall

Suitable for small pipes – typically up to 40mm diameter. The mineral wool must be secured around the pipe with wire or mesh.

Note: Check with pipe manufacturer that pipe material is compatible with Knauf Intumescent and Acoustic Mastic.

Knauf Rocksilk Slab RS60

Knauf Intumescent and Acoustic Mastic

Knauf ‘C-T’ Stud

Knauf Core Board Channel

Knauf Screws at 300mm centres

Knauf ‘C’ Studs extending 600mm above and below the ‘C-T’ joint fixed through with a minimum of 6 Knauf Wafer Head Jackpoint Screws

Knauf ‘C-T’ Stud to suit specification

Knauf Rockalk Slab RS60

Knauf Intumescent and Acoustic Mastic

Knauf Universal Slab RS60

Knauf Intumescent and Acoustic Mastic

Knauf ‘C’ Stud

Knauf Core Board Channel

12mm Knauf Screws at 300mm centres

Knauf Core Board fillet (cut on site)

150mm wide running width of cavity between ‘C-T’ Studs

Knauf Intumescent and Acoustic Mastic

Knauf ‘C’ Stud

Knauf Core Board Channel

12mm Knauf Screws at 300mm centres

Knauf Core Board fillet (cut on site)

150mm wide running width of cavity between ‘C-T’ Studs

Where you see these icons in a detail, that detail is particularly relevant to that sector.
Wall Linings

Our versatile range of wall lining systems makes it easy to produce a high-quality, high-performance finished wall regardless of the background.

Whether your priority is acoustic control, fire resistance, minimum stand-off, maximum service cavity space, high insulation or to support tiles, we have a solution already designed to suit.

As well as complete dry lining solutions we also provide fast-drying parge coat to ensure air-tightness, and a range of readymix and gypsum-based spray-applied projection plasters to suit backgrounds from masonry and smooth concrete to plasterboard.

Direct Bonding and Metal Furring

- Quick and economical to install
- Minimum stand-off distance
- No need to mechanically fix to the background

Wall Liner

- Can overcome substantial background irregularities
- Accommodates large service runs and insulation
- Little or no background preparation required

Independent ‘I’ Stud

- Can provide fire ratings up to 90 minutes
- No limit to stand-off distance allowing large cavities
- Perfect for very tall linings

Insulating Laminates

- Designed to instantly enhance thermal insulation

Generate specifications at www.knauf.co.uk
Knauf Direct Bonding and Metal Furring

Knauf Direct Bonding and Metal Furring Linings are the simplest and quickest of drylining systems to install. They are suitable for most brick, block and concrete backgrounds and will work with a wide range of Knauf Plasterboards.

**Insulating Laminates**

Our range of high-efficiency insulating laminate boards provide instant energy savings.

**Plasterboard Adhesive**

Knauf Plasterboard Adhesive is used to quickly bond Knauf Plasterboards or Metal Furring Channels to masonry backgrounds.

**Knauf Plasterboard**

The full range of acoustic, fire resistant, moisture resistant and impact resistant boards to provide performance and design solutions.

**Metal Furring**

Knauf Metal Furring Channel.

**Direct Bonding**

Knauf Direct Bonding provides a high-quality, robust lining in the shortest possible time frame, speeding up projects. If a board must be mechanically fixed, then Knauf Metal Furring can be used.

**Key Features**

- Quick and economical to install
- Easily accommodates services
- No need to mechanically fix to background
- Does not take up valuable room area

**Finishing**

Our complete range of finishing products includes hand-applied jointing, plaster and ready-mixed solutions. See our full guide on page 210.

**Other Components**

- The Knauf jointing range ensures that strong, high-quality joints are easy to achieve.
- Use Knauf Gypsum Parge Coat to seal masonry walls, ensuring all gaps are filled, especially at junctions and corners.
- Knauf Sealant seals gaps, minimises airborne sound transmission and vibrations.

**Other Wall Lining Systems:**

- Wall Liner: 98
- Independent ‘I’ Stud: 104
- Insulating Laminates: 112
- Wet Area Partitions: 184
- Acoustic and Aesthetic Linings: 194
**Knauf Direct Bonding and Metal Furring**

**Installation Procedures**

Knauf linings are designed to be simple and fast to install. Knauf Technical Services are on hand should you have any questions or unusual situations to deal with.

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**General**

Knauf Direct Bonding and Metal Furring lining systems must be installed in accordance with Knauf’s recommendations and the recommendations of BS 8212: 1995 and BS 8000: Part 8: 1994.

**Preparation**

Pre-treat backgrounds if necessary and remove all release agents.

If Direct Bonding a masonry separating wall, it may be necessary to apply a coat of Knauf Gypsum Parge Coat at a minimum thickness of 4mm to the entire wall surface. Ensure all gaps are sealed, especially at junctions and corners. Knauf Gypsum Parge Coat should have a key applied, and then be allowed to set fully prior to Direct Bonding with Knauf Plasterboards.

In all instances, the background should be plumbed for alignment, making allowances for over-sailing high spots on the masonry. Mark guidelines on the floor and soffit to establish the new wall plane. Mark vertical guidelines on the background to establish the bonding positions as determined by lining system type and the board size and thickness as shown in the table below.

**Perimeter 1**

A continuous band of Knauf Plasterboard Adhesive should be applied around the wall perimeter, service penetrations and openings to improve the airtightness and reduce the effects of cold convection currents impairing the thermal performance of the wall construction.

**Application of Knauf Plasterboard Adhesive and Boarding 2**

Apply Knauf Plasterboard Adhesive dabs, spaced intermittently up the wall along the vertical guidelines. The size and position of the dabs will vary depending on the dry lining system being used.

**Dab centres when direct bonding using Knauf Plasterboard Adhesive**

<table>
<thead>
<tr>
<th>Thickness of Wallboard</th>
<th>Width</th>
<th>Adhesive Centres</th>
<th>Row of Dabs per Board</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.5mm</td>
<td>910mm</td>
<td>475mm</td>
<td>3</td>
</tr>
<tr>
<td>9.5mm</td>
<td>1200mm</td>
<td>450mm</td>
<td>5</td>
</tr>
<tr>
<td>12.5mm</td>
<td>1200mm</td>
<td>600mm</td>
<td>3</td>
</tr>
</tbody>
</table>

---

**Direct Bonding**

1. Applying a continuous band of Knauf Plasterboard Adhesive around the perimeter.
2. Offering up Knauf Plasterboard and pressing into place.
3. Applying Knauf Plasterboard Adhesive dabs at the required centres.
4. Offering up Knauf Insulating Laminates for a better thermal performance.

**Metal Furring**

5. Applying Knauf Plasterboard Adhesive around the perimeter and at the required centres.
6. Ensuring Knauf Metal Furring Channels are fixed plumb.
7. Fixing Knauf Plasterboard onto the Knauf Metal Furring Channel.

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**Knauf Training Courses**

We offer a range of comprehensive training courses at our purpose-built training schools to ensure the installer is fully up to speed with the latest techniques and regulations. See page 276 for more information.

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Generate specifications at www.knauf.co.uk
Knauf Direct Bonding
Application Details
These details represent some of the most common design situations relevant to the Knauf Direct Bonding system. Knauf Technical Services can advise on any specific detail you are trying to achieve.

Dab layout

Head and base

Internal corner

Head detail

Cill

Where you see these icons in a detail, that detail is particularly relevant to that sector.
Knauf Direct Bonding
Application Details
These details represent some of the most common design situations relevant to the Knauf Direct Bonding system. Knauf Technical Services can advise on any specific detail you are trying to achieve.

Knauf Metal Furring
Application Details
These details represent some of the most common design situations relevant to the Knauf Metal Furring system. Knauf Technical Services can advise on any specific detail you are trying to achieve.

Dabs and channel layout

Head and base

Abutment, for non-fire-rated partition

Where you see these icons in a detail, that detail is particularly relevant to that sector.
Direct Bonding and Metal Furring

Internal corner

Detail 10

Knauf Metal Furring Channel bonded to substrate with Knauf Plasterboard Adhesive

External corner

Detail 11

Knauf Plasterboard

Knauf Metal Furring Channel bonded to substrate with Knauf Plasterboard Adhesive

Knauf Screws at 200mm centres

Head detail

Detail 12

Knauf Metal Furring Channel

Knauf Screws

Continuous band of Knauf Plasterboard Adhesive at head

Cill

Detail 13

Knauf Metal Furring Channel bonded horizontally under edge of Cill on a continuous dab of Knauf Plasterboard Adhesive

Knauf Screws

Insulated lintel

Knauf Plasterboard

Metal Furring Channel bonded directly to a continuous dab of Knauf Plasterboard Adhesive

Knauf Screws

Knauf Plasterboard

Jamb

Detail 14

Knauf Metal Furring Channel bonded to substrate with Knauf Plasterboard Adhesive

Knauf Screws

Knauf Plasterboard

Where you see these icons in a detail, that detail is particularly relevant to that sector.
Knauf Wall Liner

The Knauf Wall Liner System is extremely versatile and can be specified for application on masonry backgrounds with moderate irregularities between 20mm and 125mm. It can accommodate any of the range of Knauf Plasterboards.

Key Features
- Can overcome substantial irregularities on background
- The lining void can accommodate large service runs and any required insulation
- Little or no background preparation is required

Fixing
- Knauf Screws are self-drilling and self-tapping and designed to work perfectly with Knauf Plasterboards.

Insulating Laminates
- The Knauf Insulating Laminate range provides instant energy savings.

Other Components
- Knauf Movement Control Joint is an aluminium ‘V’ section used to bridge gaps left for expansion and contraction.
- Knauf Sealant seals gaps, minimising airborne sound transmission and air leakage.
- Use Knauf Gypsum Plaster Coat to seal masonry walls ensuring all gaps are filled, especially at junctions and corners.

Key Points
- Can work perfectly with Knauf Plasterboards.
- Accommodates large service runs and any required insulation.
- Little or no background preparation is required.

Other Wall Lining Systems:
- Direct Bonding and Metal Furring
- Independent ‘I’ Stud
- Insulating Laminates
- Wet Area Partitions
- Acoustic and Aesthetic Linings

Generate specifications at www.knauf.co.uk

Wall Liner 99
Knauf Wall Liner

Installation Procedures

Knauf Wall Linings are designed to be simple and fast to install. Knauf Technical Services are on hand should you have any questions or unusual situations to deal with.

General

Knauf Wall Liner must be installed in accordance with Knauf’s recommendations and the recommendations of BS 8212: 1995 and BS 8000: Part 8: 1994.

Preparation

Mark guidelines on the floor and soffit to establish the positions of floor and head tracks relative to the stand-off distance required.

Mark vertical guidelines on the background to establish the Knauf ‘C’ Channel positions at maximum 600mm centres for 12.5mm Knauf Plasterboard.

Depending on the required storey height, mark the wall with the location of intermediate Knauf Universal Brackets in line with the channel guidelines and maximum 900mm vertical centres. Position service runs and outlets.

Framing 1,2,3

Knauf ‘U’ Channel – Perimeter Support channels should be used for the head and base of the lining. Bed each section on two continuous beads of Knauf Sealant along the guidelines using fixings appropriate for the background. Fix at nominal 600mm centres.

Fix the intermediate Knauf Universal Brackets to the background, at the marked positions, using fixings appropriate for the background.

Offer up the Knauf ‘C’ Channels to engage with the Knauf Universal Brackets and with the floor and head tracks. Extend the length of Knauf ‘C’ Channels where necessary by using Knauf ‘C’ Channel Connectors. Adjust the studs for position and alignment.

Secure the Knauf ‘C’ Channels to the Knauf Universal Brackets using two Knauf Wafer Head Screws per side, per bracket. Depending on the stand-off distance, bend back the legs of the crimped universal brackets so as not to obstruct the fixing of the board.

Fix Knauf Angle Sections at external corners and reveals, where appropriate.

Insulation

Install insulation quilt where required, between and behind the vertical Knauf ‘C’ Channels for continuity and to prevent slumping.

Boarding 4

The plasterboard lining is fixed by screwing into the metal framework, using Knauf Screws at 300mm centres. Reduce to 200mm at corners. Fixings should be to all horizontal and vertical members.

Knauf Wall Liner Application Details

These details represent some of the most common design situations relevant to the Knauf Wall Liner system. Knauf Technical Services can advise on any specific detail you are trying to achieve.
**External corner**  
Detail 3

Knauf 'C' Channel secured to Knauf Universal Bracket
Knauf Universal Bracket with leg snipped and bent to retain channel
25 x 25mm Knauf Angle Section used as reinforcement

**Reveal head**  
Detail 4

Knauf Screws at 200mm centres
25 x 50mm Knauf Angle Section
Minimum 30mm overlap between window frame and lintel insulation

**Reveal cill**  
Detail 5

Knauf 'U' Channel – Perimeter Support
Knauf Universal Bracket secured to background and screw-fixed to channel with two Knauf Wafer Head Jackpoint Screws each side

**Reveal detail**  
Detail 6

Minimum 30mm overlap between window frame and lintel insulation
Knauf 'C' Channel secured to Knauf Universal Bracket
25 x 50mm Knauf Angle Section
25 x 25mm Knauf Angle Section

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Where you see these icons in a detail, that detail is particularly relevant to that sector.
Knauf Independent ‘I’ Stud
Knauf Independent ‘I’ Stud is a fully independent wall lining system that can be used in all building types to upgrade the acoustic, fire and thermal performance of an existing masonry wall and to deal with any irregularities.

Key Features
• Can be fire rated up to 90 minutes
• No limit to stand-off distance
• As easy to install as a dry wall partition

Insulating Laminates
The Knauf Insulating Laminates range provides instant energy savings.

Knauf Screws are self-drilling and self-tapping and designed to work perfectly with Knauf plasterboards.

Knauf Sealant seals gaps, minimises airborne sound transmission and vibrations.

Use Knauf Gypsum Plaster Coat to seal masonry walls, ensuring all gaps are filled, especially at junctions and corners.

Fixings

Knauf Independent ‘I’ Stud
Knauf Independent ‘I’ Stud is particularly suited where it is important to avoid damaging or fixing back to the original wall and when a fire rating is required.

Other Components

Finishing

other Wall Lining Systems:
Direct Bonding and Metal Furring 88
Wall Liner 98
Insulating Laminates 112
Wet Area Partitions 184
Acoustic and Aesthetic Linings 194
Knauf Independent ‘I’ Stud

Optimised Solutions

All Knauf Independent ‘I’ Stud systems utilise high-quality, purpose-designed Knauf Plasterboards, Knauf Studs and Channels and Knauf Accessories. These components are carefully matched to realise the performances detailed below and are tested together as a whole system. Insisting on genuine Knauf components throughout will ensure your Knauf Independent ‘I’ Stud system is fully covered by our performance warranty.

Independent ‘I’ Stud for Healthcare Projects

<table>
<thead>
<tr>
<th>Independent ‘I’ Stud Lining IWLC1/13</th>
<th>Fire*</th>
<th>Max Height**</th>
<th>Impact Duty***</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 layer of 12.5mm Knauf Fire Panel to one side of 50mm (0.55mm) Knauf ‘I’ Studs at 600mm centres forming independent lining to external steel cladding</td>
<td>30 mins</td>
<td>3100mm</td>
<td>Medium</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Independent ‘I’ Stud Lining IWLC2/13</th>
<th>Fire*</th>
<th>Max Height**</th>
<th>Impact Duty***</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 layer of 15mm Knauf Fire Panel to one side of 60mm (0.65mm) Knauf ‘I’ Studs at 600mm centres forming independent lining to external steel cladding</td>
<td>60 mins</td>
<td>3500mm</td>
<td>Serious</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Independent ‘I’ Stud Lining IWLC3/13</th>
<th>Fire*</th>
<th>Max Height**</th>
<th>Impact Duty***</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 layer of 15mm Knauf Fire Panel to one side of 70mm (0.70mm) Knauf ‘I’ Studs at 600mm centres forming independent lining to external steel cladding</td>
<td>60 mins</td>
<td>4300mm</td>
<td>Serious</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Independent ‘I’ Stud Lining IWLC4/08</th>
<th>Fire*</th>
<th>Max Height**</th>
<th>Impact Duty***</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 layers of 12.5mm Knauf Wallboard to one side of 70mm (0.70mm) Knauf ‘I’ Studs at 600mm centres forming independent lining to external steel cladding</td>
<td>60 mins</td>
<td>4300mm</td>
<td>Serious</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Independent ‘I’ Stud Lining IWLC5/08</th>
<th>Fire*</th>
<th>Max Height**</th>
<th>Impact Duty***</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 layers of 12.5mm Knauf Wallboard to one side of 92mm (0.90mm) Knauf ‘I’ Studs at 600mm centres forming independent lining to external steel cladding</td>
<td>60 mins</td>
<td>5700mm</td>
<td>Severe</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Independent ‘I’ Stud Lining IWLC6/13</th>
<th>Fire*</th>
<th>Max Height**</th>
<th>Impact Duty***</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 layers of 15mm Knauf Fire Panel to one side of 70mm (0.70mm) Knauf ‘I’ Studs at 600mm centres forming independent lining to external steel cladding</td>
<td>90 mins</td>
<td>5700mm</td>
<td>Severe</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Independent ‘I’ Stud Lining IWLC7/13</th>
<th>Fire*</th>
<th>Max Height**</th>
<th>Impact Duty***</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 layers of 15mm Knauf Fire Panel to one side of 146mm (0.90mm) Knauf ‘I’ Studs at 600mm centres forming independent lining to external steel cladding</td>
<td>90 mins</td>
<td>8000mm</td>
<td>Severe</td>
</tr>
</tbody>
</table>

* Fire resistance period for complete wall structure including external steel cladding to BS 8212: 1995 and BS 8000: Part 8: 1994

** Maximum heights calculated based on a limiting deflection of L/240 at 200Pa


Knauf Independent ‘I’ Stud

Installation Procedures

Knauf Independent ‘I’ Stud linings are designed to be simple and fast to install. Knauf Technical Services are on hand should you have any questions or unusual situations to deal with.

General

Knauf ‘I’ Studs should be trimmed to within 5mm of the slab to soffit height. Extend the length of Knauf ‘I’ Studs where necessary by splicing the Knauf ‘I’ Studs with Knauf Deep Flange ‘U’ Channel. See detail 30, page 40 (Performer).

Perimeter Framing 1, 2

Knauf ‘U’ Channels should be used for the head and base and to form any abutments and to frame openings. Bend each section onto two continuous beads of Knauf Sealant and secure with Knauf Nailable Plugs at maximum 600mm centres and 50mm from ends of channels or studs. Separate studs and channels forming the perimeter need not be joined, but should be tightly butted together.

Vertical Studs 3, 4, 5

Studs should be positioned within the channels to coincide with the abutments of the boards, which will be fixed later. The centres (either 300, 400 or 600mm) depend on the performance requirements. In general, there is no requirement to secure the metal at this point as this will be achieved once the boards are screw fixed.

Support for Horizontal Joints

To back horizontal joints in outer board layers, Knauf Fixing Channel or Knauf Flat Fixing Plate should be fitted across the face of all studs secured with two Knauf Wafer Head Screws per stud or between board layers.

Boarding 6

All boards should be offered up to the frame with the face of the board outwards and secured with Knauf Screws at 300mm centres. Fixing centres should be reduced to 200mm at corners. Fixings should be to all horizontal and vertical members.
Knauf Independent ‘I’ Stud

Application Details

These details represent some of the most common design situations relevant to the Knauf Independent ‘I’ Stud system. Knauf Technical Services can advise on any specific detail you are trying to achieve.

Head and floor

- Knauf Sealant or Knauf Intumescent and Acoustic Mastic, if required
- Knauf ‘I’ Studs engaged in floor tracks
- Skirting (by others)

Internal corner

- Knauf ‘C’ Studs are used to form the corner
- Knauf ‘U’ Channel spanning between and secured to studs beyond to form opening
- Knauf Angle Section

External corner

- Knauf ‘I’ Studs
- Knauf ‘C’ Studs are used to form the corner
- Knauf Wafer Head Screws at 600mm centres

Reveal head

- Knauf Screws at 300mm centres
- Knauf ‘C’ Studs are used to form the corner

Note: Where opening is over 1500mm wide contact Knauf Technical Services for more information. Consideration should be given to the use of sealant to prevent air leakage.

Generate specifications at www.knauf.co.uk
Knauf Independent ‘I’ Stud

Reveal cill

- Cavity closer
- Knauf ‘U’ Channel spanning between and secured to studs beyond to form opening
- Knauf ‘I’ Stud

Steel cladding

The Knauf Independent ‘I’ Stud wall lining system is perfect for tall steel cladding situations that require a fire rating.

Jamb detail

- Minimum 30mm overlap between window frame and lintel insulation
- Cavity closer
- 25 x 25mm Knauf Angle Section
- Knauf ‘I’ Stud secured between head and base tracks
- Knauf Screws at 200mm centres

Where you see these icons in a detail, that detail is particularly relevant to that sector.

Generate specifications at www.knauf.co.uk
Specifying Knauf Insulating Laminates

One of the simplest ways to meet regulatory requirements and contribute towards the Code for Sustainable Homes is to specify Knauf Insulating Laminates. The range of quick-to-install Insulating Laminates provide instant cost-effective dry lining and insulation in one board.

Product facts
- CFC/HFC free
- Zero ozone depletion potential
- Suitable for direct-fix or dot-to-dab installation
- Low global warming potential

Code for Sustainable Homes solutions

The Code for Sustainable Homes requires progressive improvement to efficiency levels in new build housing, culminating in level 6 – carbon neutral homes – in 2016.

Upgrading a single typical residential house can reduce carbon dioxide (CO₂) output by approximately 0.5 to 3 tonnes a year. Much bigger reductions are seen with older office blocks, industrial buildings and residential towers.

### Insulating Laminates

The Knauf Insulating Laminates range is designed to instantly enhance thermal insulation, for both wall and roof linings. The range offers a fast and effective way to comply with Building Regulations and work towards the Code for Sustainable Homes.

With the additional benefits of improved airtightness and better sound insulation, Knauf Insulating Laminates provide comprehensive answers for a range of building requirements. And, once easily installed, the rapid payback period speaks for itself.

### Complying with Approved Document L

All new dwelling and non-dwelling constructions, as well as a great many refurbishment projects, are required to meet Approved Document L, Domestic Technical Handbook Section 6, Technical Standard F1 or Technical Guidance Document L. Our Insulating Laminates reduce energy expenditure and help meet the Building Regulations requirements, while maximising internal usable space.

### Thermal performance

The range of Knauf Insulating Laminates incorporates a 9.5mm tapered edged Knauf Wallboard bonded to a variety of different types and thicknesses of insulation to ensure the required U-value is reached for the minimum impact on room space.

### How to fix

Knauf Insulating Laminates can be fixed using the Knauf Direct Bonding system to line brick or block walls, or mechanically fixed directly to timber in new, refurbished or extended residential and commercial buildings.

For roof linings, Knauf Insulating Laminates are mechanically fixed directly over rafters, with additional Knauf insulation between the rafters.

### Timber Frame (140mm Knauf Earthwool Frametherm 32)

<table>
<thead>
<tr>
<th>Target U-value</th>
<th>Masonry outer leaf</th>
<th>Tile/timber clad outer leaf</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.13 W/m²K (Code 1)</td>
<td>75mm Knauf PIR Laminate</td>
<td>55mm Knauf XPS Laminate Plus</td>
</tr>
<tr>
<td>0.18 W/m²K (Code 4)</td>
<td>55mm Knauf XPS Laminate Plus</td>
<td>50mm Knauf PIR Laminate</td>
</tr>
<tr>
<td>0.21 W/m²K (Code 3)</td>
<td>45mm Knauf Thermal Laminate</td>
<td>40mm Knauf Thermal Laminate</td>
</tr>
</tbody>
</table>

### Timber Frame (90mm Knauf Earthwool Frametherm 32)

<table>
<thead>
<tr>
<th>Target U-value</th>
<th>Masonry outer leaf</th>
<th>Tile/timber clad outer leaf</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.18 W/m²K (Code 4)</td>
<td>75mm Knauf PIR Laminate</td>
<td>75mm Knauf PIR Laminate</td>
</tr>
<tr>
<td>0.21 W/m²K (Code 3)</td>
<td>55mm Knauf XPS Laminate Plus</td>
<td>55mm Knauf XPS Laminate Plus</td>
</tr>
</tbody>
</table>

### Masonry Wall (partial fill with minimum 50mm PIR rigid insulation)

<table>
<thead>
<tr>
<th>Target U-value</th>
<th>Dense block (1.13)</th>
<th>Medium block (0.59)</th>
<th>Lightweight aggregate (0.34)</th>
<th>Lightweight aircourse (0.11)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.15 W/m²K (Code 5/6)</td>
<td>75mm Knauf PIR Laminate</td>
<td>75mm Knauf PIR Laminate</td>
<td>75mm Knauf PIR Laminate</td>
<td>75mm Knauf PIR Laminate</td>
</tr>
<tr>
<td>0.18 W/m²K (Code 4)</td>
<td>55mm Knauf XPS Laminate Plus</td>
<td>55mm Knauf XPS Laminate Plus</td>
<td>45mm Knauf XPS Laminate Plus</td>
<td>40mm Knauf Thermal Laminate</td>
</tr>
<tr>
<td>0.21 W/m²K (Code 3)</td>
<td>45mm Knauf Thermal Laminate</td>
<td>45mm Knauf Thermal Laminate</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Masonry Wall (full fill with minimum 100mm Knauf Earthwool DiTherm Cavity Slab)

<table>
<thead>
<tr>
<th>Target U-value</th>
<th>Dense block (1.13)</th>
<th>Medium block (0.59)</th>
<th>Lightweight aggregate (0.34)</th>
<th>Lightweight aircourse (0.11)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.15 W/m²K (Code 5/6)</td>
<td>–</td>
<td>–</td>
<td>75mm Knauf PIR Laminate</td>
<td>75mm Knauf PIR Laminate</td>
</tr>
<tr>
<td>0.18 W/m²K (Code 4)</td>
<td>65mm Knauf PIR Laminate</td>
<td>65mm Knauf PIR Laminate</td>
<td>55mm Knauf XPS Laminate Plus</td>
<td>55mm Knauf XPS Laminate Plus</td>
</tr>
<tr>
<td>0.21 W/m²K (Code 3)</td>
<td>55mm Knauf XPS Laminate Plus</td>
<td>55mm Knauf XPS Laminate Plus</td>
<td>45mm Knauf XPS Laminate Plus</td>
<td>40mm Knauf Thermal Laminate</td>
</tr>
</tbody>
</table>
Part L1A and Part L2A solutions for new build
Approved Documents L1A and L2A set out the Building Regulation requirements for new buildings. Further details on these documents and methods of compliance are shown on pages 288 and 296.

**Timber Frame (140mm Earthwool FrameTherm 32)**

<table>
<thead>
<tr>
<th>Target U-value</th>
<th>Masonry outer leaf</th>
<th>Tile/timber clad outer leaf</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.25 W/m²K (L1A)</td>
<td>22mm Knauf Thermal Laminate</td>
<td>22mm Knauf Thermal Laminate</td>
</tr>
<tr>
<td>0.30 W/m²K (L1A)</td>
<td>22mm Knauf Thermal Laminate</td>
<td>22mm Knauf Thermal Laminate</td>
</tr>
<tr>
<td>0.35 W/m²K (L1B)</td>
<td>22mm Knauf Thermal Laminate</td>
<td>22mm Knauf Thermal Laminate</td>
</tr>
</tbody>
</table>

**Timber Frame (90mm Earthwool FrameTherm 32)**

<table>
<thead>
<tr>
<th>Target U-value</th>
<th>Masonry outer leaf</th>
<th>Tile/timber clad outer leaf</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.25 W/m²K (L1A)</td>
<td>43mm Knauf XPS Laminate Plus</td>
<td>55mm Knauf XPS Laminate Plus</td>
</tr>
<tr>
<td>0.30 W/m²K (L1A)</td>
<td>30mm Knauf Thermal Laminate</td>
<td>40mm Knauf Thermal Laminate</td>
</tr>
<tr>
<td>0.35 W/m²K (L1B)</td>
<td>22mm Knauf Thermal Laminate</td>
<td>22mm Knauf Thermal Laminate</td>
</tr>
</tbody>
</table>

**Masonry Wall (partial fill with minimum 50mm PIR rigid insulation)**

<table>
<thead>
<tr>
<th>Target U-value</th>
<th>Dense block (1.13)</th>
<th>Medium block (0.51)</th>
<th>Lightweight aggregate (0.34)</th>
<th>Lightweight aircorste (0.11)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.25 W/m²K (L1A)</td>
<td>40mm Knauf Thermal Laminate</td>
<td>30mm Knauf Thermal Laminate</td>
<td>22mm Knauf Thermal Laminate</td>
<td>22mm Knauf Thermal Laminate</td>
</tr>
<tr>
<td>0.30 W/m²K (L1A)</td>
<td>22mm Knauf Thermal Laminate</td>
<td>22mm Knauf Thermal Laminate</td>
<td>22mm Knauf Thermal Laminate</td>
<td>22mm Knauf Thermal Laminate</td>
</tr>
<tr>
<td>0.35 W/m²K (L1B)</td>
<td>22mm Knauf Thermal Laminate</td>
<td>22mm Knauf Thermal Laminate</td>
<td>22mm Knauf Thermal Laminate</td>
<td>22mm Knauf Thermal Laminate</td>
</tr>
</tbody>
</table>

**Solid Masonry Wall (Knauf Independent ‘I’ Stud with 70mm Knauf Rocksilk Flexible Slab between studs)**

<table>
<thead>
<tr>
<th>Target U-value</th>
<th>Dense block (1.13)</th>
<th>Medium block (0.51)</th>
<th>Lightweight aggregate (0.34)</th>
<th>Lightweight aircorste (0.11)</th>
<th>Brick (0.77)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.27 W/m²K (Scotland)</td>
<td>55mm Knauf PIR Laminate</td>
<td>55mm Knauf XPS Laminate Plus</td>
<td>45mm Knauf XPS Laminate Plus</td>
<td>35mm Knauf XPS Laminate Plus</td>
<td>35mm Knauf XPS Laminate Plus</td>
</tr>
<tr>
<td>0.30 W/m²K (Scotland)</td>
<td>55mm Knauf PIR Laminate</td>
<td>40mm Knauf Thermal Laminate</td>
<td>50mm Knauf XPS Laminate Plus</td>
<td>35mm Knauf XPS Laminate Plus</td>
<td>35mm Knauf XPS Laminate Plus</td>
</tr>
<tr>
<td>0.35 W/m²K (Scotland)</td>
<td>40mm Knauf Thermal Laminate</td>
<td>30mm Knauf Thermal Laminate</td>
<td>22mm Knauf Thermal Laminate</td>
<td>35mm Knauf XPS Laminate Plus</td>
<td>35mm Knauf XPS Laminate Plus</td>
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**Solid Masonry Wall (direct bond lining)**

<table>
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<tr>
<th>Target U-value</th>
<th>Dense block (1.13)</th>
<th>Medium block (0.51)</th>
<th>Lightweight aggregate (0.34)</th>
<th>Lightweight aircorste (0.11)</th>
<th>Brick (0.77)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.27 W/m²K (Scotland)</td>
<td>– – –</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>35mm Knauf PIR Laminate</td>
</tr>
<tr>
<td>0.30 W/m²K (England)</td>
<td>–</td>
<td>75mm Knauf PIR Laminate</td>
<td>65mm Knauf PIR Laminate</td>
<td>55mm Knauf XPS Laminate Plus</td>
<td>75mm Knauf PIR Laminate</td>
</tr>
<tr>
<td>0.35 W/m²K (England)</td>
<td>65mm Knauf PIR Laminate</td>
<td>65mm Knauf PIR Laminate</td>
<td>65mm Knauf PIR Laminate</td>
<td>40mm Knauf XPS Laminate Plus</td>
<td>65mm Knauf PIR Laminate</td>
</tr>
</tbody>
</table>

Insulating Laminates

Part L1B and Part L2B solutions for refurbishment
Approved Documents L1B and L2B set out the Building Regulation requirements for refurbishment in buildings. Further details on these documents and methods of compliance are shown on pages 289 and 297.

**Solid Masonry Wall (direct bond lining)**

<table>
<thead>
<tr>
<th>Target U-value</th>
<th>Dense block (1.13)</th>
<th>Medium block (0.51)</th>
<th>Lightweight aggregate (0.34)</th>
<th>Lightweight aircorste (0.11)</th>
<th>Brick (0.77)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.27 W/m²K (Scotland)</td>
<td>– – –</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>35mm Knauf PIR Laminate</td>
</tr>
<tr>
<td>0.30 W/m²K (England)</td>
<td>–</td>
<td>75mm Knauf PIR Laminate</td>
<td>65mm Knauf PIR Laminate</td>
<td>55mm Knauf XPS Laminate Plus</td>
<td>75mm Knauf PIR Laminate</td>
</tr>
<tr>
<td>0.35 W/m²K (England)</td>
<td>65mm Knauf PIR Laminate</td>
<td>65mm Knauf PIR Laminate</td>
<td>65mm Knauf PIR Laminate</td>
<td>40mm Knauf XPS Laminate Plus</td>
<td>65mm Knauf PIR Laminate</td>
</tr>
</tbody>
</table>

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Generate specifications at www.knauf.co.uk
Soffit Linings

Soffit linings have to perform many tasks, from providing fire resistance and hiding services above, to providing acoustic control.

Together with all these tasks a soffit lining needs to be strong, both to resist cracking from movement and because any failure at height is dangerous, particularly in a public environment.

Knauf soffit linings are manufactured from high-quality, system-tested components that are designed to work together under the most demanding circumstances.

---

Knowledge always demands increase; it is like fire, which must be kindled by some external agent, but when it once starts燃烧 always
Knauf C-Form Suspended Ceilings

The Knauf C-Form Suspended Ceiling system uses the minimum number of different components and is extremely easy and quick to install. The system is very strong and perfect for larger ceiling areas.

C-Form Suspended Ceiling

The Knauf C-Form Suspended Ceiling system can provide up to 2 hours fire protection and easily accommodates changes in level.

Key Features

- Recommended for large ceiling areas and long spans
- Recommended when creating deep voids
- Extremely strong and resistant to movement

Our range of Ceiling Solutions includes:
- MF Suspended Ceilings 128
- Direct to Joists 138
- Warm Roof Linings 140
- Acoustic Ceilings 194

Fixings

- Knuf Nut and Bolts

Metal Components

- Knuf ‘U’ Channel – Perimeter Support
- The Knuf Intersection Connector is used to join the upper and lower Knuf ‘C’ Channels
- Knuf Strap Hanger
- Knuf Screws are self-drilling and self-tapping and are designed to work perfectly with Knuf Plasterboards
- Knuf ‘C’ Channel forms the main suspension grid
- The Knuf ‘C’ Channel Connector is used to extend Knuf ‘C’ Channels
- Knuf Soffit Cleat
- Knuf Angle Section is used as Metal Hanger

Plasterboard

- Our full range of Knuf Plasterboards is available to use with the Knauf C-Form Suspended Ceiling system

Finishing

Our complete range of finishing products includes hand-applied jointing, plaster and ready-mixed solutions. See our full guide on page 210.

Generate specifications at www.knauf.co.uk
Knauf C-Form Suspended Ceilings

Fast track to your optimum solution

1 Choose your sector
2 Find your performance levels
3 Find your solution

- Residential
- Commercial
- Education
- Healthcare

Knauf C-Form Optimised Solutions

These are our Optimised Solutions; should your requirements fall outside these then please contact our Knauf Technical team who can provide detailed specification guidance for your project.

Knauf Technical Services: 01795 416259.

Performance you can trust

All Knauf C-Form Suspended Ceilings utilise high-quality, purpose-designed Knauf Plasterboards, Knauf Metal Components and Knauf Accessories, tested and warranted to work together as a whole system.

Generate specifications at www.knauf.co.uk

Knauf C-Form Suspended Ceilings

Fire Protection to Floor or Roof Cavity above

Soffit Lining CF1/08 Fire* Suspension Hangers Upper Channels Lower Channels System Weight (kg/m²)
2 layers of 12.5mm Knauf Wallboard, fixed to the underside of a Knauf C-Form Ceiling system, with 100mm Knauf Earthwool Acoustic Roll within cavity in the void
30 mins 1200mm 1200mm 450mm 19.6

Soffit Lining CF2/13 Fire* Suspension Hangers Upper Channels Lower Channels System Weight (kg/m²)
2 layers of 15mm Knauf Fire Panel, fixed to the underside of a Knauf C-Form Ceiling system, with 30mm Knauf Universal Slab RS45 in the void
60 mins 900mm 900mm 450mm 27.4

Soffit Lining CF3/13 Fire* Suspension Hangers Upper Channels Lower Channels System Weight (kg/m²)
1 layer of 12.5mm Knauf Fire Panel fixed to the underside of a Knauf C-Form Ceiling system
30 mins 1200mm 1200mm 450mm 12.0

Soffit Lining CF4/13 Fire* Suspension Hangers Upper Channels Lower Channels System Weight (kg/m²)
2 layers of 12.5mm Knauf Fire Panel fixed to the underside of a Knauf C-Form Ceiling system
60 mins 1200mm 1200mm 450mm 22.0


Note: Consideration to the effect on fire performance must be given when installing services, as penetrations may affect the resistance period if not treated correctly.

Fire Protection to Steel Beams supporting Concrete Floors

Soffit Lining CF5/13 Fire* Suspension Hangers Upper Channels Lower Channels System Weight (kg/m²)
1 layer of 12.5mm Knauf Fire Panel fixed to the underside of a Knauf C-Form Ceiling system
30 mins 1200mm 1200mm 450mm 12.0

Soffit Lining CF6/13 Fire* Suspension Hangers Upper Channels Lower Channels System Weight (kg/m²)
2 layers of 12.5mm Knauf Fire Panel fixed to the underside of a Knauf C-Form Ceiling system
60 mins 1200mm 1200mm 450mm 22.0

Soffit Lining CF7/13 Fire* Suspension Hangers Upper Channels Lower Channels System Weight (kg/m²)
3 layers of 15mm Knauf Fire Panel fixed to the underside of a Knauf C-Form Ceiling system, with 40mm Knauf Universal Slab RS45 in the void
120 mins 900mm 900mm 450mm 39.8


Note: Consideration to the effect on fire performance must be given when installing services, as penetrations may affect the resistance period if not treated correctly.

Fire Protection to Timber Floor Construction

Soffit Lining CF5/13 Fire* Suspension Hangers Upper Channels Lower Channels System Weight (kg/m²)
1 layer of 12.5mm Knauf Fire Panel fixed to the underside of a Knauf C-Form Ceiling system
30 mins 1200mm 1200mm 450mm 12.0

Soffit Lining CF6/13 Fire* Suspension Hangers Upper Channels Lower Channels System Weight (kg/m²)
2 layers of 12.5mm Knauf Fire Panel fixed to the underside of a Knauf C-Form Ceiling system
60 mins 1200mm 1200mm 450mm 22.0


Note: Consideration to the effect on fire performance must be given when installing services, as penetrations may affect the resistance period if not treated correctly.

Ceiling System Loading Information

The addition of services, ventilation and lighting can add significant loading to the ceiling system if the additional mass is to be borne by the ceiling. Please check the table below to see if the support channels need reducing to ensure the system is adequately specified.

<table>
<thead>
<tr>
<th>C-Form ceiling</th>
<th>Total load including weight of ceiling system (kg/m²) – this should include any additional lighting/ventilation system</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15 20 25 30 35 40 45 50</td>
</tr>
<tr>
<td>Suspension Hanger centres (mm)</td>
<td>1200 1200 1200 900 900 900 900 600</td>
</tr>
<tr>
<td>Upper ‘C’ Channel centres (mm)</td>
<td>450 450 450 450 450 450 450 450</td>
</tr>
<tr>
<td>Lower ‘C’ Channel centres (mm)</td>
<td>450 450 450 450 450 450 450 450</td>
</tr>
</tbody>
</table>

Knauf and You

Performance Tables
Index
Knauf C-Form Suspended Ceilings

Installation Procedures

Knauf Ceiling systems are designed to be simple and fast to install. Knauf Technical Services are on hand should you have any questions or unusual situations to deal with.

General

The Knauf C-Form Suspended Ceiling system must be installed in accordance with Knauf’s recommendations and the recommendations of BS 8212: 1995 and BS 8000: Part 8: 1994.

When creating an airtight space, methods for the reduction of potential ‘ceiling lift’ should be considered. For further advice contact Knauf Technical Services.

Perimeter Fixing 1

20mm Knauf ‘U’ Channel – Perimeter Support Channels should be secured to the walls at the required heights, at maximum 600mm centres and 50mm from the ends of channels. The top of the channel should align with the underside of the upper Knauf ‘C’ Channel.

Knauf ‘U’ Channel – Perimeter Support channels forming the perimeter do not need to be mechanically fixed together.

Suspension 2

Select the fixing centres suited to the ceiling loading. See page 121.

Fix Knauf Soffit Cleats to the structural soffit with suitable fixings. Choose either Knauf Angle Section or the flexible Knauf Strap Hanger and fix to the Knauf Soffit Cleat. When creating a shallow ceiling void, Knauf Universal Brackets can be used.

Upper ‘C’ Channels 3

The centres of the upper Knauf ‘C’ Channels depend on the loading requirements. See page 121.

Knauf Angle Section or Knauf Strap Hanger should be fixed staggered to either side of the Knauf ‘C’ Channel with two Knauf Wafer Head Jackpoint Screws. The upper ‘C’ Channels should lie on the upper flange of the 20mm Knauf ‘U’ Channel – Perimeter Support.

Lower ‘C’ Channels 4, 5, 6

The lower Knauf ‘C’ Channels should be positioned at 450mm centres within the perimeter channels to coincide with the abutments of the boards, which will be fixed later.

Connect the lower ‘C’ Channels to the upper ‘C’ Channels by means of Knauf Channel Intersection Connectors. These connectors fit over the upper ‘C’ Channels and snap-fix into the lower ‘C’ Channels.

Insulation

Once the upper and lower Knauf ‘C’ Channels have been connected and before the boarding has started, the specified Knauf insulation should be inserted above the upper ‘C’ Channels, if required. Care should be taken to ensure that the insulation is fitted neatly without gaps at abutments or between different rolls.

Movement Control Joints

Create movement control joints where ceiling runs exceed 10m, coinciding where possible with movement joints in the surrounding structure.

Boarding 7, 8

All boards should be offered up to the ceiling grid with the decorative face of the boards outwards and secured with Knauf Screws at maximum 230mm centres. Fixing centres should be reduced to 150mm at ends and perimeter.

Boards should be mounted at 90° to the direction of the ceiling channels.

Knauf Plasterboards have been installed, spray apply Knauf Readymix plaster to finish ceiling ready for decoration.

Knauf Training Courses

We offer a range of comprehensive training courses at our purpose-built training schools to ensure the installer is fully up to speed with the latest techniques and regulations. See page 276 for more information.
Knauf C-Form Suspended Ceilings

Application Details
These details represent some of the most common design situations relevant to the Knauf C-Form Suspended Ceiling system. Knauf Technical Services can advise on any specific detail you are trying to achieve.

Section through ceiling

Movement control joint
Can be formed simply with standard components as shown, ideally coinciding with movement joints in the building structure.

Abutment to wall

Note: Proposed fixing into substrate to be designed to take required loading.

Where you see these icons in a detail, that detail is particularly relevant to that sector.

Generate specifications at www.knauf.co.uk

Knauf and You

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Where you see these icons in a detail, that detail is particularly relevant to that sector.

Knauf C-Form Suspended Ceilings

**Change of level and bulkhead**

![Diagram](image1)

- Knauf Strap Hanger or Knauf Angle Section
- Knauf 'C' Channel
- Knauf Wafer Head
- Knauf 'U' Channel Perimeter Support
- 25 x 50mm Knauf Angle
- Knauf 'C' Channel

**Change of level and bulkhead**

![Diagram](image2)

- Knauf Strap Hanger or Knauf Angle Section
- Knauf 'C' Channel
- Knauf 'U' Channel Perimeter Support
- 25 x 50mm Knauf Angle
- Knauf Pressboard to suit specification

**Change of level and bulkhead**

![Diagram](image3)

- Knauf Strap Hanger or Knauf Angle Section
- Knauf Channel Intersection Connector
- Lower Knauf 'C' Channel
- Knauf Pressboard to suit specification
- Knauf Wafer Head
- Knauf 'U' Channel Perimeter Support
- 25 x 50mm Knauf Angle
- Knauf 'C' Channel

**Change of level and bulkhead**

![Diagram](image4)

- Knauf Strap Hanger or Knauf Angle Section
- Knauf Channel Intersection Connector
- Upper Knauf 'C' Channel
- Knauf Pressboard to suit specification
- Knauf 'C' Channel
- Knauf Strap Hanger or Knauf Angle Section
- Knauf 'C' Channel
- Knauf 'U' Channel Perimeter Support
- 25 x 50mm Knauf Angle
- Knauf Wafer Head Screws

Generate specifications at www.knauf.co.uk
Knauf MF Suspended Ceilings

The Knauf MF Suspended Ceiling system is versatile and easy to install. Deep voids are easily created to hide services and the ceiling can be used to provide fire protection.

Key Features
- Simple and fast to install
- Can provide fire protection of up to 2 hours
- Shapes, features and openings are easily created

Our complete range of finishing products includes hand-applied jointing, plaster and ready-mixed solutions. See our full guide on page 210.
Knauf MF Suspended Ceilings

Fast track to your optimum solution

1 Choose your sector
   - Residential
   - Commercial
   - Education
   - Healthcare
2 Find your performance levels
   - Fire
   - Loading
   - Dimensions
3 Find your solution

If your requirements fall outside these please contact Knauf Technical Services.

Knauf MF Suspended Ceilings

Fire Protection to Floor or Roof Cavity above

Soffit Lining MF1/08 Fire* Suspension Hangers Upper Channels Lower Channels System Weight (kg/m²)
2 layers of 12.5mm Knauf Wallboard, fixed to the underside of a Knauf MF Ceiling system, with 100mm Knauf Earthwool Acoustic Roll in the void 30 mins 1200mm 1200mm 450mm 19.6

Soffit Lining MF2/13 Fire* Suspension Hangers Upper Channels Lower Channels System Weight (kg/m²)
2 layers of 15mm Knauf Fire Panel, fixed to the underside of a Knauf MF Ceiling system, with 50mm Knauf Universal Slab RS45 in the void 60 mins 1200mm 1200mm 450mm 27.4

Note: Consideration to the effect on fire performance must be given when installing services, as penetrations may affect the resistance period if not treated correctly.

Soffit Lining MF3/13 Fire* Suspension Hangers Upper Channels Lower Channels System Weight (kg/m²)
1 layer of 12.5mm Knauf Fire Panel fixed to the underside of a Knauf MF Ceiling system 30 mins 1200mm 1200mm 450mm 12.0

Soffit Lining MF4/13 Fire* Suspension Hangers Upper Channels Lower Channels System Weight (kg/m²)
2 layers of 12.5mm Knauf Fire Panel fixed to the underside of a Knauf MF Ceiling system 60 mins 1200mm 1200mm 450mm 22.0

Note: Consideration to the effect on fire performance must be given when installing services, as penetrations may affect the resistance period if not treated correctly.

Fire Protection to Steel Beams supporting Concrete Floors

Soffit Lining MF5/13 Fire* Suspension Hangers Upper Channels Lower Channels System Weight (kg/m²)
1 layer of 12.5mm Knauf Fire Panel fixed to the underside of a Knauf MF Ceiling system 30 mins 1200mm 1200mm 450mm 12.0

Soffit Lining MF6/13 Fire* Suspension Hangers Upper Channels Lower Channels System Weight (kg/m²)
2 layers of 12.5mm Knauf Fire Panel fixed to the underside of a Knauf MF Ceiling system 60 mins 1200mm 1200mm 450mm 22.0

Soffit Lining MF7/13 Fire* Suspension Hangers Upper Channels Lower Channels System Weight (kg/m²)
3 layers of 15mm Knauf Fire Panel fixed to the underside of a Knauf MF Ceiling system, with 40mm Knauf Universal Slab RS45 in the void 120 mins 1200mm 900mm 450mm 39.8

Note: Consideration to the effect on fire performance must be given when installing services, as penetrations may affect the resistance period if not treated correctly.

Fire Protection to Timber Floor Construction

Soffit Lining MF5/13 Fire* Suspension Hangers Upper Channels Lower Channels System Weight (kg/m²)
1 layer of 12.5mm Knauf Fire Panel fixed to the underside of a Knauf MF Ceiling system 30 mins 1200mm 1200mm 450mm 12.0

Soffit Lining MF6/13 Fire* Suspension Hangers Upper Channels Lower Channels System Weight (kg/m²)
2 layers of 12.5mm Knauf Fire Panel fixed to the underside of a Knauf MF Ceiling system 60 mins 1200mm 1200mm 450mm 22.0

Soffit Lining MF7/13 Fire* Suspension Hangers Upper Channels Lower Channels System Weight (kg/m²)
3 layers of 15mm Knauf Fire Panel fixed to the underside of a Knauf MF Ceiling system, with 40mm Knauf Universal Slab RS45 in the void 120 mins 1200mm 900mm 450mm 39.8

Note: Consideration to the effect on fire performance must be given when installing services, as penetrations may affect the resistance period if not treated correctly.

Ceiling System Loading Information

The addition of services, ventilation and lighting can add significant loading to the ceiling system if the additional mass is to be borne by the ceiling. Please check the table below to see if the support channels need reducing to ensure the system is adequately specified to perform safely.

<table>
<thead>
<tr>
<th>MF ceiling</th>
<th>Total load including weight of ceiling system (kg/m²)</th>
<th>15</th>
<th>20</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
<th>45</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suspender Hanger centres (mm)</td>
<td>1200</td>
<td>1200</td>
<td>1200</td>
<td>1200</td>
<td>900</td>
<td>900</td>
<td>1200</td>
<td>1200</td>
<td>1000</td>
</tr>
<tr>
<td>MF Primary Support Channel centres (mm)</td>
<td>1200</td>
<td>1200</td>
<td>1000</td>
<td>900</td>
<td>900</td>
<td>600</td>
<td>600</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MF Ceiling Channel centres (mm)</td>
<td>450</td>
<td>450</td>
<td>450</td>
<td>450</td>
<td>450</td>
<td>450</td>
<td>450</td>
<td>450</td>
<td>450</td>
</tr>
</tbody>
</table>

Knauf MF Optimised Solutions

These are our Optimised Solutions; should your requirements fall outside these then please contact our Knauf Technical team who can provide detailed specification guidance for your project. Knauf Technical Services: 01795 416259.

Performance you can trust
All Knauf MF Suspended Ceilings utilise high-quality, purpose-designed Knauf Plasterboards, Knauf Metal Components and Knauf Accessories, tested and warranted to work together as a whole system.

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Performance you can trust
All Knauf MF Suspended Ceilings utilise high-quality, purpose-designed Knauf Plasterboards, Knauf Metal Components and Knauf Accessories, tested and warranted to work together as a whole system.
Knauf MF Suspended Ceilings

Installation Procedures

Knauf Ceiling systems are designed to be simple and fast to install. Knauf Technical Services are on hand should you have any questions or unusual situations to deal with.

General


When creating an airtight space, methods for the reduction of potential ‘ceiling lift’ should be considered. For further advice contact Knauf Technical Services.

Perimeter Fixing 1

Knauf MF Perimeter Channels should be secured to the walls at the required heights, at maximum 600mm centres and 50mm from the ends of channels. The top of the Knauf MF Perimeter Channels should align with the underside of the Knauf MF Primary Support Channel.

The Knauf MF Perimeter Channels forming the perimeter and the Knauf Primary Support Channel do not need to be mechanically fixed together.

Suspension 2

Select the fixing centres suited to the ceiling loading. See page 131.

Fix Knauf Soffit Cleats to the structural soffit with suitable fixings. Choose either Knauf Angle Section or the flexible Knauf Strap Hanger and fix to the Knauf Soffit Cleat, using Knauf MF Nut and Bolt. When creating a shallow ceiling void, Knauf Universal Brackets can be used.

MF Primary Support Channels 3

The centres of the primary support channels depend on the loading requirement, determined in the MF loading information table on page 131.

Knauf Angle Section or Knauf Strap Hanger should be fixed to the Knauf Primary Support Channels with two Knauf Wafer Head Jackpoint Screws. The Primary Support Channels should lie on the upper flange of the Perimeter Channel.

Joints in MF Ceilings

If straight lengths of Knauf MF Primary Support Channels need jointing, place the channels back to back, with a minimum 150mm overlap, and fix with two Knauf Wafer Head Jackpoint Screws.

MF Ceiling Channels 4, 5

The Knauf MF Ceiling Channels should be positioned at 450mm centres within the perimeter channels to coincide with the abutments of the boards, which will be fixed later.

Connect the Knauf MF Ceiling Channel to the Knauf MF Primary Support Channels by means of Knauf MF Connecting Clips. These clips fit over the Knauf MF Primary Support Channels and snap-fix over the MF Ceiling Channels.

Insulation

Once the primary support and the ceiling channels have been connected and before the boarding has started, Knauf insulation as specified should be inserted above the primary support channels. Care should be taken to ensure that the insulation is fitted neatly without gaps at abutments or between different rolls.

Movement Control Joints

Create movement control joints where ceiling runs exceed 10m, coinciding where possible with movement joints in the surrounding structure.

Boarding 6, 7, 8

All boards should be offered up to the ceiling grid with the decorative face of the boards outwards and secured with Knauf Screws at maximum 230mm centres. Fixing centres should be reduced to 150mm at ends and perimeter.

Boards should be mounted at 90° to the direction of the ceiling channels.

Once Knauf Plasterboards have been installed, spray apply Knauf Readymix plasters to finish ceiling ready for decoration.

Knauf Training Courses

We offer a range of comprehensive training courses at our purpose-built training schools to ensure the installer is fully up to speed with the latest techniques and regulations. See page 276 for more information.
Knauf MF Suspended Ceilings

Application Details
These details represent some of the most common design situations relevant to the Knauf MF system. Knauf Technical Services can advise on any specific detail you are trying to achieve.

Abutment to Wall, Parallel to Primary Support Channel

400–600mm

Knauf Wafer Head Jackpoint Screws

Suitable fixing
Structural subfit
Knauf Soffit Cleat
Knauf Strap Hanger or Knauf Angle Section
Knauf MF Primary Support Channel
Knauf MF Primary Support Channel
Knauf MF Ceiling Channel
Knauf Plasterboard to suit specification

Note: Proposed fixing into substrate to be designed to take required loading.

Movement Control Joint
Can be formed simply with standard components as shown, ideally coinciding with movement joints in the building structure.

Suitable fixing
Structural subfit
Knauf Soffit Cleat
Knauf Strap Hanger or Knauf Angle Section
Knauf MF Primary Support Channel
Knauf MF Primary Support Channel
Knauf MF Ceiling Channel
Knauf Movement Control Joint
Knauf Plasterboard to suit specification

Note: Proposed fixing into substrate to be designed to take required loading.

Abutment to Wall, Perpendicular to Primary Support Channel

400–600mm

Knauf MF Connecting Clip
Knauf MF Primary Support Channel
Knauf MF Ceiling Channel

Note: Proposed fixing into substrate to be designed to take required loading.

Junction with Partition

Suitable fixing
Knauf Plasterboard to suit specification
Knauf Strap Hanger or Knauf Angle Section
Knauf MF Primary Support Channel
Knauf MF Perimeter Channel
Knauf Plasterboard to suit specification
Knauf Sealant

Note: Proposed fixing into substrate to be designed to take required loading.
Where you see these icons in a detail, that detail is particularly relevant to that sector.
Ceiling Linings: Direct to Joists

High-quality Knauf Plasterboards are designed to be easy to cut, lift and fix to the underside of timber joists to complete a floor that meets all the relevant fire and acoustic regulations.

Designed to work with modern timber construction

Modern timber joist floors come in a variety of guises from traditionally based solid timber joists to composite engineered I-beam solutions. We have developed products such as our high acoustic performance plasterboard, Knauf Soundshield Plus and Knauf Resilient Bar around the requirements of flooring as well as partitions, and have tested our products with the majority of common solutions.

Tried and tested solutions

Floors in general, and timber floors in particular, create a number of challenges for the ceiling below. All floors will deflect and it is essential from a decoration point of view that the correct materials are used to resist cracking at joints. Knauf jointing compounds and Knauf joint tapes have been rigorously tested and developed to provide a robust lining that resists cracking. Specifying Knauf Wood Screws also minimises the chances of ‘nail popping’, caused when the timber itself warps or shrinks due to moisture changes.

Timber joist floors incorporating Knauf Plasterboards have been substantively tested for fire, acoustic and robustness performance.

Other Soffit Lining Solutions:
- C-Form Suspended Ceilings 118
- MF Suspended Ceilings 128
- Warm Roof Lining 140
- Acoustic and Aesthetic Ceilings 194

Generate specifications at www.knauf.co.uk

---

Internal Floors for Residential Projects

### Soffit Lining IFR1/13
- Sound
- Fire**

22mm T&G Floor Boarding over solid timber joists. 1 layer of 12.5mm Knauf Soundshield Plus* fixed to underside of joists.

<table>
<thead>
<tr>
<th>Width</th>
<th>Height</th>
<th>Sound</th>
<th>Fire**</th>
</tr>
</thead>
<tbody>
<tr>
<td>40dB(fKw)</td>
<td>30 mins</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Soffit Lining IFR2/08
- Sound
- Fire**

22mm T&G Floor Boarding over solid timber joists. 1 layer of 15mm Knauf Wallboard fixed to underside of joists.

<table>
<thead>
<tr>
<th>Width</th>
<th>Height</th>
<th>Sound</th>
<th>Fire**</th>
</tr>
</thead>
<tbody>
<tr>
<td>40dB(fKw)</td>
<td>30 mins</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Soffit Lining IFR3/08
- Sound
- Fire**

22mm T&G Floor Boarding over timber "I" joists. 1 layer of 15mm Knauf Wallboard fixed to underside of joists.

<table>
<thead>
<tr>
<th>Width</th>
<th>Height</th>
<th>Sound</th>
<th>Fire**</th>
</tr>
</thead>
<tbody>
<tr>
<td>40dB(fKw)</td>
<td>30 mins</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* If joists are at greater than 450mm centres, timber noggings of nominal size 38mm x 38mm are required between joists and at ceiling perimeter to support board edges.
For ratings in accordance with EN 1364-1: 1999, please contact Knauf Technical Services.

Nogging layout for Knauf Ceiling Lining direct to joists

Nogging are required to support board edges when using 12.5mm thick plasterboard with joists at 600mm centres. No nogging are required where joint centres are at 450mm or lower centres, or when installing 15mm Knauf Plasterboard onto joists at 600mm centres. See the diagram below.

Generate specifications at www.knauf.co.uk
Warm Roof Linings

Knauf thermal insulating Warm Roof Linings save money on new-build and loft conversion projects by combining the functions of insulating and lining. They offer one of the easiest and most effective ways to comply with the Building Regulations and help meet the Code for Sustainable Homes.

Knauf Thermal Laminates are mechanically fixed directly over the rafters, with additional Knauf insulation between the rafters. Using highly efficient insulation materials as part of the lining means there is no need to extend the rafters, keeping installed costs to a minimum without losing valuable room space.

Upgrading existing building stock

Real energy savings and reduced carbon emissions depend on bringing the UK’s vast stock of inefficient old buildings up to modern thermal performance standards as soon as possible. Combining a loft conversion with a thermal upgrade makes the most efficient use of the building footprint while significantly reducing energy usage into the future.

The Knauf Insulating Laminate range of quick-to-install thermal plasterboards provide instant cost-effective dry lining and insulation solutions for all sloping roof situations, cutting energy needs dramatically.

Specifying Knauf thermal insulating Warm Roof Linings in conjunction with the other insulating elements of the roof is one of the simplest ways to meet the requirements of the Building Regulations and help meet the Code for Sustainable Homes.

Part 1 Solutions

U-values for roofs with insulation between and Knauf Insulated Laminates fixed to rafters.

<table>
<thead>
<tr>
<th>Target U-value (W/m²K)</th>
<th>Knauf Earthwool 100mm</th>
<th>Knauf Earthwool 150mm</th>
<th>Knauf Earthwool 200mm</th>
<th>Knauf Earthwool 100mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.19 (L1A)</td>
<td>65mm Knauf PIR Laminates</td>
<td>40mm Knauf Thermal Laminates</td>
<td>22mm Knauf Thermal Laminates</td>
<td>22mm Knauf Thermal Laminates</td>
</tr>
<tr>
<td>0.20 (L1B)</td>
<td>65mm Knauf PIR Laminates</td>
<td>35mm Knauf Thermal Laminates</td>
<td>22mm Knauf Thermal Laminates</td>
<td>22mm Knauf Thermal Laminates</td>
</tr>
</tbody>
</table>

Code for Sustainable Homes Solutions

U-values for roofs with insulation between and Knauf Insulated Laminates fixed to rafters.

<table>
<thead>
<tr>
<th>Target U-value (W/m²K)</th>
<th>Knauf Earthwool 100mm</th>
<th>Knauf Earthwool 150mm</th>
<th>Knauf Earthwool 200mm</th>
<th>Knauf Earthwool 100mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.15 (Code 5/6, 2016)</td>
<td>–</td>
<td>65mm Knauf PIR Laminates</td>
<td>45mm Knauf XPS Laminates Plus</td>
<td>20mm Knauf PIR Laminates</td>
</tr>
<tr>
<td>0.17 (Code 4, 2013)</td>
<td>–</td>
<td>50mm Knauf PIR Laminates</td>
<td>30mm Knauf Thermal Laminates</td>
<td>10mm Knauf XPS Laminates Plus</td>
</tr>
<tr>
<td>0.18 (Code 3, 2011)</td>
<td>75mm Knauf PIR Laminates</td>
<td>55mm Knauf XPS Laminates Plus</td>
<td>22mm Knauf Thermal Laminates</td>
<td>40mm Knauf Thermal Laminates</td>
</tr>
</tbody>
</table>

Notes:
- An additional vapour control layer is needed for Knauf XPS Laminates Plus solutions above.
- An additional vapour control layer is needed for Knauf Thermal Laminates above, or specify Knauf Thermal Laminate Vapourcheck.
- When specifying the depth of insulation, consideration should be made to allow for ventilation space.
Flooring

Knauf flooring products are precision engineered from the highest-quality gypsum fibreboard to create strong monolithic floor structures. From Knauf Brio for domestic new build and refurbishment through to Knauf GiFAfloor for access floor systems in high specification commercial building, Knauf has a wide range of flooring products to suit modern construction methods.

Knauf Brio is an engineered gypsum flooring panel with 60% recycled content. It’s a strong, lightweight and quickly installed dry screed system. Brio has a very high thermal conductivity (R = 0.38 W/mK) so heating response times are quicker and energy use is reduced.

Knauf GiFAfloor systems use engineered flooring panels with a recycled material content of 50%. Fibres from wholly recycled paper are blended with a mix of natural and flue gas desulphurised gypsum to create non-combustible gypsum fibreboard panels with A1 fire rating.

For more information on our flooring products visit our website www.knauf.co.uk

Knauf Brio
Dry floor screed for enhanced acoustic performance and thermal efficiency.

What is Brio?
• Gypsum fibre dry floor screed panel
• Thermally transparent
• Dimensionally stable
• Ideal over underfloor heating systems
• Strong and exceptionally well engineered
• High recycled content

Knauf GiFAfloor
Load-bearing partial-access floor systems with high dimensional stability.

What is GiFA?
• Load-bearing gypsum fibre panels
• Ideal substrate for stone finishes
• Dimensionally stable and robust
• Engineered with tongue and groove edge profile
• Suitable for partial access to void
• Enhances underfloor heating system performance
• Non-combustable A1 fire rating

For more information on our flooring products visit our website www.knauf.co.uk
External Linings

Dry construction is already the preferred method for many off-site and on-site projects due to the benefits it brings in reduced timescales, consistency and improved health and safety. Aquapanel Exterior external cladding systems take these benefits to the next stage.

Aquapanel Exterior is a tough, dimensionally stable cement board for use in exterior areas as a render carrier or cladding background.

Once taped and jointed, Aquapanel Exterior can be left unfinished for up to 6 months, making use of even small windows of opportunity to completely close the external envelope, maximising the efficiency of the project schedule.

Aquapanel Exterior is easily curved, allowing for striking architectural features to be formed. Aquapanel Exterior is also ideal for creating external soffits and the illusion of an internal ceiling continuing through the façade to the outside of the building. Protects structural steelwork for up to 2 hours.

Aquapanel Exterior Cladding System
- Fast closure of exterior walls
- Can be left unfinished for up to 6 months once taped and jointed
- Easily curved to create architectural features
- BBA Certified system

External Soffit Linings
- unaffected by water and freeze thaw tested
- Easily create ceilings that “flow through” glazed external walls
Aquapanel Exterior Cladding System

The Knauf Aquapanel Exterior System is an exterior cladding system for use on timber frame, timber battens and metal framed structures. The system provides a fast, high-quality and extremely economical alternative to traditional methods of construction.

Aquapanel Exterior
Knauf Aquapanel Exterior enables fast closing of exterior stud walls, and can be left unfinished for 6 months while work continues inside.

Key Features
• Fast closure of exterior walls
• Taped and jointed boards can be left unfinished for up to 6 months
• Easy to cut and fix (score and snap, no pre-drilling)
• Aquapanel Exterior Cement Board is a completely non-organic, robust and stable substrate
• Easily curved to a minimum 1 metre radius
• Lighter and faster than traditional brick and block construction of facades

Fixings
• Knauf Aquapanel Maxi Screws
• Knauf Aquapanel Stainless Steel Screws

Other Components
• Knauf Aquapanel Exterior Reinforcing Tape
• Reinforcing mesh (by others)

BBA Certification
All details and application to be read in conjunction with BBA Certificate No. 09/4633, available at www.bbacert.co.uk

Other Aquapanel Systems:
External Soffit Linings 158
Wet Area Partitions 184
Aquapanel Exterior Lining to Structural Metal Stud Wall

30 minute fire rated

External Lining: AEL01/13

1 layer of 12.5mm Knauf Aquapanel Exterior Cement Board, taped and jointed using Knauf Aquapanel Exterior Joint Filler Grey and Knauf Aquapanel Exterior Tape 10cm, with Knauf Aquapanel Tyvek® Stuccowrap® Breather Membrane behind

Structural Studwork (design to suit):

Minimum 75mm structural metal studs at maximum 600mm centres. 40mm Knauf Universal Slab RS45 within the cavity.

Internal Lining:

1 layer of 15mm Knauf Fire Panel fixed over a vapour control layer between stud and board

Fire:

30 mins

* Fire performance for system is 30 minutes to EN 1363-1:1999-10 (rating from the outside of the wall to the inside).

Aquapanel Exterior Lining to Structural Metal Stud Wall

60 minute fire rated

External Lining: AEL02/13

1 layer of 12.5mm Knauf Aquapanel Exterior Cement Board, taped and jointed using Knauf Aquapanel Exterior Joint Filler Grey and Knauf Aquapanel Exterior Tape 10cm, with Knauf Aquapanel Tyvek® Stuccowrap® Breather Membrane behind

Structural Studwork (design to suit):

Minimum 75mm structural metal studs at maximum 600mm centres. 60mm Knauf Universal Slab RS60 within the cavity.

Internal Lining:

2 layers of 15mm Knauf Fire Panel fixed over a vapour control layer between stud and the inner board layer

Fire:

60 mins

** Fire performance for system is 60 minutes to EN 1363-1:1999-10 (rating from the outside of the wall to the inside).

Aquapanel Exterior Lining to Structural Timber Stud Wall

External Lining: AEL03/13

1 layer of 12.5mm Knauf Aquapanel Exterior Cement Board, taped and jointed using Knauf Aquapanel Exterior Joint Filler Grey and Knauf Aquapanel Exterior Tape 10cm, backed by a 15mm Euroclass A2 fire rated Sheathing Board with a Knauf Aquapanel Tyvek® Stuccowrap® Breather Membrane between the boards

Structural Studwork (design to suit):

Minimum 120mm x 60mm structural timber frame with studs at maximum 600mm centres. 120mm Knauf Universal Slab RS45 within the cavity.

Internal Lining:

1 layer of 15mm Knauf Fire Panel with a vapour control layer between stud and board

Fire:

30 mins / 90 mins

*** Fire performance for system is 90 minutes to DIN 4102-2:1977-09 (rating from the outside of the wall to the inside) and 30 minutes to DIN 4102-2:1977-09 (rating from the inside of the wall to the outside).

Looking for a different Knauf Aquapanel Exterior solution?

These are typical solutions designed to provide an effective system to suit the specific performance criteria for that sector.

Should your requirements fall outside these, please contact Knauf Technical Services

Knauf Technical Services: 01795 416339

Aquapanel Exterior Lining to Structural Timber Stud Wall

60 minute fire rated

External Lining: AEL04/13

1 layer of 12.5mm Knauf Aquapanel Exterior Cement Board, taped and jointed using Knauf Aquapanel Exterior Joint Filler Grey and Knauf Aquapanel Exterior Tape 10cm, with Knauf Aquapanel Tyvek® Stuccowrap® Breather Membrane between the boards

Structural Studwork (design to suit):

Minimum 75mm structural metal studs at maximum 600mm centres. 60mm Knauf Universal Slab RS60 within the cavity.

Internal Lining:

2 layers of 15mm Knauf Fire Panel fixed over a vapour control layer between stud and the inner board layer

Fire:

60 mins

** Fire performance for system is 60 minutes to EN 1363-1:1999-10 (rating from the outside of the wall to the inside).

Aquapanel Exterior Linings are trusted systems

Knauf Aquapanel Exterior Linings have been rigorously tested and are both BBA Certified and accepted by the NHBC and Zurich.

Extracts from BBA Certificate no. 09/4633

NHBC Standards 2011

“The NHBC accepts the use of the Knauf Aquapanel Exterior System when installed and used in accordance with this Certificate, in relation to NHBC Standards, Part 6 Curtain Walling and Cladding, Chapters 6.2 External timber framed walls and 6.10 Light steel framed walls and floors.”

LABC and Premier Guarantee Approval

LABC and Premier Guarantee – two of the leading structural warranty providers in the UK – both approve the use of the Knauf Aquapanel Exterior System under their warranted building systems.

Example external wall systems incorporating Knauf Aquapanel Exterior.
**Aquapanel Exterior**

**Installation Procedures**
Knauf Aquapanel Exterior Cement Boards are designed to be simple and fast to install. Knauf Technical Services are on hand should you have any questions or unusual situations to deal with.

**Preparation 1**
Use a knife to score the Knauf Aquapanel Exterior on one side so that the mesh is cut. Snap the scored edge and cut through the mesh on the rear side.

For sharp-edged cuts, for example exterior edges, use a hand-held circular saw with a dust extractor or a pendulum jigsaw. To make cut-outs for wiring and pipes, use a jigsaw or keyhole saw.

The diameter of the opening should be approximately 10mm greater than the diameter of the pipe. The remaining gap can be closed with a suitable sealant or sealing strip.

Knauf Aquapanel Exterior can be curved to a radius of 3 metres with a full board or to a 1 metre radius having cut the board into 300mm strips. Bend the Knauf Aquapanel Exterior panel prior to installation.

The fine cracks that occur on the board surface will not cause any loss of performance to the final system when finished to a basecoat level.

**Fixing Board 2**
Apply Knauf Aquapanel Exterior horizontally to members at maximum 600mm centres. Ensure there is a gap of 3–5mm between the boards and that the members are central behind both boards.

When fitting Knauf Aquapanel Exterior, ensure that the vertical joints are centrally aligned to the board below.

When fitting Knauf Aquapanel Exterior around windows and doors ensure that no vertical joints coincide at window and door corners as this may allow moisture ingress.

Use Knauf Aquapanel Maxi Screws to fix the boards to metal members.

Use Knauf Aquapanel Exterior Stainless Steel Screws to fix the boards to the timber members.

Screws should be at least 15mm in from the edge of the Knauf Aquapanel Exterior and spaced at maximum 250mm centres.

Screws should not be over tightened.

**Taping and Jointing 3, 4**
Immediately after installing the Knauf Aquapanel Exterior, protect the framework from weathering by filling all the joints with Knauf Aquapanel Exterior Joint Filler – Grey. Use the Knauf Aquapanel Exterior Joint Filler – Grey to fill the gaps between the board and then spread it over the face of the board, ready to take the tape. Immediately embed Knauf Aquapanel Exterior Joint Tape (10cm) or Knauf Aquapanel Exterior Reinforcing Tape – as specified, centred over all of the joints. Scrape the excess Knauf Aquapanel Exterior Joint Filler – Grey from the Knauf Aquapanel Exterior Tape leaving it just covered.

Cover the screw heads with Knauf Aquapanel Exterior Joint Filler – Grey.

**Exterior Render 8**
Render must be applied in accordance with BS EN 13914-4:2005, Code of Practice for External Rendering.

Fully mix the renders before applying them to ensure that the colour is true right through. Apply the chosen exterior finish to each wall area.

The scaffold around the finished wall must be covered to protect from rain or weathering until the finish is fully dry.

**Finishing 5, 6, 7**
Refer to installation instructions from the selected/specified render supplier, alternatively:

Cover the entire wall with basecoat to a depth of approximately 5mm.

Using a tile adhesive trowel create a notched layer of basecoat with notch depth of approx 8mm. Return the removed basecoat to the bucket to be reused later.

Embed reinforcing mesh over the entire surface. Overlap the reinforcing mesh by 100mm at edges. Apply a thin coat of basecoat over the mesh and notches just covering the mesh and creating a smooth finish. The finished layer should be approximately 5–7mm thick and the reinforcing mesh should be in the top third of the finished surface. Before continuing with the next steps, allow the basecoat to fully dry.

Covering screw heads with Knauf Aquapanel Joint Filler – Grey.

**Knauf Training Courses**
We offer a range of comprehensive training courses at our purpose-built training schools to ensure the installer is fully up to speed with the latest techniques and regulations. See page 276 for more information.

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1. Scoring Knauf Aquapanel Exterior with a knife.
2. Fixing the boards to the background members.
5. Applying notches within the basecoat.
6. Applying reinforcing mesh.
7. Covering mesh with basecoat.
8. Applying finish.
Aquapanel Exterior

Application Details

These details represent some of the most common design situations relevant to the Knauf Aquapanel Exterior system. Knauf Technical Services can advise on any specific detail you are trying to achieve.

Window jamb – ventilated wooden frame

<table>
<thead>
<tr>
<th>Material/Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheathing board</td>
<td></td>
</tr>
<tr>
<td>Knauf Aquapanel</td>
<td></td>
</tr>
<tr>
<td>Tyvek® Stuccowrap™</td>
<td></td>
</tr>
<tr>
<td>breather membrane</td>
<td></td>
</tr>
<tr>
<td>Basecoat reinforcing mesh and top coat</td>
<td>(by others)</td>
</tr>
<tr>
<td>Timber battens</td>
<td>(min. 60mm fixing face) fixed as per specification</td>
</tr>
<tr>
<td>Timber battens</td>
<td>fixed as per specification</td>
</tr>
<tr>
<td>Corner bead</td>
<td>(by others)</td>
</tr>
<tr>
<td>Sealant</td>
<td>(by others)</td>
</tr>
<tr>
<td>Knauf Plasterboard</td>
<td>as per specification</td>
</tr>
<tr>
<td>Timber cavity closer</td>
<td></td>
</tr>
</tbody>
</table>

Window reveal (upper and lower) – ventilated wooden frame

<table>
<thead>
<tr>
<th>Material/Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knauf insulation</td>
<td>as per specification</td>
</tr>
<tr>
<td>Vapour barrier/airtight layer</td>
<td></td>
</tr>
<tr>
<td>Knauf Plasterboard</td>
<td>as per specification</td>
</tr>
<tr>
<td>Timber frame</td>
<td>(2 x 38mm minimum width)</td>
</tr>
<tr>
<td>Knauf Plasterboard</td>
<td>as per specification</td>
</tr>
<tr>
<td>Sealant</td>
<td>(by others)</td>
</tr>
<tr>
<td>Window frame</td>
<td>(minimum 58.5mm thick)</td>
</tr>
</tbody>
</table>

Basecoat reinforcing mesh and top coat (by others)

Where you see these icons in a detail, that detail is particularly relevant to that sector.
Aquapanel Exterior

Horizontal expansion joint
- Knauf Aquapanel Exterior Cement Board
- Basecoat reinforcing mesh and top coat (by others)
- Knauf Aquapanel Exterior Stainless Steel Screws SN40
- Horizontal expansion joint (by others)
- Expansion Joint 25mm max.
- Horizontal expansion joint (by others)
- Timber batten fixed as per specification (minimum 60mm fixing face)
- Sheathing board
- Knauf insulation as per specification

Base formation
- Knauf Aquapanel Exterior Cement Board
- Basecoat reinforcing mesh and top coat (by others)
- Knauf Aquapanel Exterior Stainless Steel Screws SN40
- Timber batten fixed as per specification
- Stop bead (by others)
- 50mm maximum
- Ventilation section (by others)
- G.L.
- 150mm minimum
- Levelling mortar
- Damp proof course
- Sealant (by others)
- Foundation
- Sheathing board
- Knauf insulation as per specification

Eave formation
- Ventilation section (by others)
- Stop bead (by others)
- Knauf Aquapanel Exterior Cement Board
- Basecoat reinforcing mesh and top coat (by others)
- Knauf Aquapanel Exterior Stainless Steel Screws SN40
- Timber batten (minimum 60mm fixing face fixed as per specification)
- Sheathing board
- Knauf insulation as per specification
- vapour barrier / airtight layer
- Knauf insulation as per specification
- Knauf plasterboard as per specification
- Timber
- Sheathing board
- Knauf Aquapanel Tyvek® Stuccowrap™ breather membrane
- Sealant (by others)
- Foundation
**Aquapanel Exterior**

**Intermediate fixing detail**

- Vertical timber battens at 600mm centres maximum to create suitable cavity (minimum 60mm fixing face) fixed as per specification
- Gap between boards 3–5mm maximum. Tape and joint using Knauf Aquapanel Exterior Joint Tape and Knauf Aquapanel Exterior Joint Filler – Grey
- Basecoat reinforcing mesh and top coat render (by others)

**Vertical fixing joint**

- Gap between boards 3–5mm maximum. Tape and joint using Knauf Aquapanel Exterior Joint Tape and Knauf Aquapanel Exterior Joint Filler – Grey
- Basecoat reinforcing mesh and top coat render (by others)

**Horizontal fixing joint**

- Gap between boards 3–5mm maximum. Tape and joint using Knauf Aquapanel Exterior Joint Tape and Knauf Aquapanel Exterior Joint Filler – Grey
- Basecoat reinforcing mesh and top coat render (by others)

**Fixing spacing detail**

- Vertical timber battens at 600mm centres maximum to create suitable cavity (minimum 60mm fixing face) fixed as per specification
- Gap between boards 3–5mm maximum. Tape and joint using Knauf Aquapanel Exterior Joint Tape and Knauf Aquapanel Exterior Joint Filler – Grey
- Vertical timber battens at 600mm centres maximum to create suitable cavity (minimum 60mm fixing face) fixed as per specification

**Corner boards staggering detail**

- Gap between boards 3–5mm maximum. Tape and joint using Knauf Aquapanel Exterior Joint Tape and Knauf Aquapanel Exterior Joint Filler – Grey
- Vertical timber battens at 600mm centres maximum to create suitable cavity (minimum 60mm fixing face) fixed as per specification

**Window ventilation and reinforcing detail**

- Reinforce window corners with reinforcing mesh (size 500mm x 300mm) applied into basecoat
- Gap between boards 3–5mm maximum. Tape and joint using Knauf Aquapanel Exterior Joint Tape and Knauf Aquapanel Exterior Joint Filler – Grey
- Vertical timber battens at 600mm centres maximum to create suitable cavity (minimum 60mm fixing face) fixed as per specification

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**Generate specifications at www.knauf.co.uk**
External Soffit Linings

Knauf Aquapanel cement board technology is revolutionising the way buildings are designed and constructed across Europe.

Knauf Aquapanel Exterior cement boards solve the problem of external soffit linings. Designed to be used externally, they are freeze-thaw cycle tested and have been proven in tough European and Scandinavian climates.

Knauf Aquapanel Exterior Soffit Linings

Aquapanel Exterior cement board can be used in semi-exposed environments to create a seamless exterior ceiling, concealing unsightly soffits and services. Installed in the same manner as plasterboard, Knauf Aquapanel Exterior does not require any specialist skills from the contractor.

Extremely strong and freeze-thaw resistant, Knauf Aquapanel Exterior is an aggregated Portland Cement building panel with polymer-coated glass fibre mesh embedded in both surfaces. Developed for use in exposed exterior situations as a ceiling and wall panel, Knauf Aquapanel Exterior is a proven, quality alternative to traditional building materials.

As a completely dry solution, Knauf Aquapanel Exterior cement board is fast to install, being mechanically fixed to exterior grade steelwork, quickly providing a smooth finish to receive an exterior paint as required.

Design Freedom

Aquapanel Exterior doesn’t just provide an internal ceiling look to the outside of a building, it can also be curved and shaped to form aesthetic external soffit features. Aquapanel Exterior is particularly well suited for applications where an architect wants to create the effect of a ceiling ‘flowing through’ a glazed external wall.

Proven in harsh climates

Knauf Aquapanel Exterior is inherently resistant to water, so there is no swelling or loss of stability even when wet. It is resistant to weathering, mould and changes of temperature and has a proven freeze-thaw cycle. It has excellent impact resistance, and is safe and hygienic. You can specify Knauf Aquapanel Exterior confident in the knowledge that it has been successfully installed externally throughout Europe and Scandinavia, from Norway to Greece.

Strength and versatility

Knauf Aquapanel Exterior is the perfect product to create strong, aesthetically pleasing ceilings to exposed balconies, canopies or multi-storey car parks.

Aquapanel Exterior is suited to any building environment from residential to commercial and institutional.

Once installed, with joints and screwheads filled, Aquapanel Exterior can be left for up to six months before finishing, and easily resists wind tunnel effects in open buildings such as car parks.

Aquapanel Exterior can be quickly cut to shape using the score and snap technique, with no special tools or techniques needed. Compared to traditional exterior systems, Knauf Aquapanel Exterior reduces working time and installation costs.

Further information:

Aquapanel Exterior Brochure: A comprehensive brochure is available free from our literature line – call 08700 613700 for your copy, or you can download a copy from our website: www.knauf.co.uk

Inside you will find installation and performance details for our range of Aquapanel Exterior solutions.

Typical Knauf External Soffit design detail

Generate specifications at www.knauf.co.uk

External Soffit Linings
Knauf ThermaFrame System

Knauf ThermaFrame system is designed to meet the thermal requirements of any construction by greatly reducing thermal transfer through the wall and removing the need for external insulation, making U-values as low as 0.15 W/m²K easily achievable.

The Knauf ThermaFrame system is designed to anticipate the future requirements of the Code for Sustainable Homes as well as current Building Regulations and Technical Handbooks. In many cases, ThermaFrame can also reduce the thickness of the overall solution, and so increase the amount of internal space.

The system also enables fast track construction, as a weather-tight external envelope can be erected swiftly so that internal work can start sooner, facilitating an overall faster return on investment for the project and a quicker payback period.

Knauf Standard SFS Infill System

Available for use in ventilated residential and non-ventilated commercial construction.

For more information visit our website www.knauf.co.uk/facades

Framed building infill

Knauf now also offer complete through the wall infill systems for concrete and steel framed buildings, suitable for both residential and commercial projects. Our accredited BBA Certified systems offer innovative solutions for cold and warm frame construction.

Designers and architects can choose from insulated and non-insulated render, as well as most other external finishes such as brick slips, rain screen cladding, facing bricks/blocks and timber cladding.

These exterior wall systems include our innovative ThermaFrame cold frame solution, which is optimised by the utilisation of our unique thermal stud, and traditional SFS solutions which utilise similar solid stud technology to that which is already well established in the UK market.

All of our facade systems are designed to offer the highest levels of structural thermal, fire and acoustic performance. In order to provide complete peace of mind for our clients, including specifiers and contractors, we have developed a lifetime warranted facade solution. This single source of supply warranty is fully supported by our technical and sales teams, both pre-site and during construction.

For more information please contact Knauf Technical Services.
Knauf column and beam encasements are simple and easy to install, typically using the same components used in the partitions and linings on the rest of the project to simplify logistics and provide consistency to finishes.

The Knauf Encasement System can provide up to 2 hours fire protection to steel columns and beams. High performance Knauf Fire Panel plasterboard and Knauf metal components ensure that installation is quick and easy.

- Protects structural steelwork for up to 2 hours load-bearing capacity
- Fast and economical to install
- Simplifies the package, order of work and decoration throughout your project
The Knauf Encasement system uses fast drywall techniques and our proven Knauf Fire Panel plasterboard to provide up to 2 hours fire protection to structural steel columns and beams.

**Knauf Fire Panel**
- Offers superior fire protection in encasement systems.

**Key Features**
- Protects structural steelwork for up to 2 hours.
- Fast and economical to install.
- Maintains the use of Knauf Plasterboard throughout the building ensuring easy and consistent decoration.

**Other Component**
- Knauf Intumescent and Acoustic Mastic seals gaps, minimises airborne sound transmission.

**Fixings**
- Knauf Water Head Screws are black phosphated self-drilling and self-tapping screws with low profile heads.
- Knauf Drywall Screws are self-drilling and self-tapping and designed to work perfectly with Knauf Plasterboards.

**Jointing**
- Knauf Corner Flex Tape to provide protection to external corners of encasements.
- The Knauf Jointing range ensures that strong, high-quality joints are easy to achieve.

**Encasement**
Specifying the Knauf Encasement system not only gives you peace of mind that the structural steel is adequately protected, it also simplifies the package, order of work and decoration throughout your project.
Establishing Board Thickness
To establish the thickness of Knauf Fire Panel required for steel column and beam encasements, proceed as follows:

- Refer to the tables on the opposite page. Locate the appropriate size of beam or column on the table and read off its section factor depending on whether three- or four-sided protection is required.
- Establish the period of fire resistance required.
- Refer to the table below to determine the thickness of Knauf Fire Panel required.
- For castellated steel beams, refer to the ASFP Publication ‘Fire Protection for Structural Steel in Buildings’.

Example:
Requirement: One hour fire protection to 457mm x 191mm x 98 kg/m steel beam with three-sided encasement.
Solution: Section factor A/V (Hp/A) = 90 m^-1 (from table opposite). Use single layer of 12.5mm Fire Panel or Performance Plus.

Knauf Encasement

Fire Protection Values
Building Regulations stipulate the period of fire resistance required for any element of building structure. Beams and columns require at least the same standard of fire protection as that required by any element they support.

The temperature rise of structural steelwork under fire test conditions provides a method of computing fire protection thicknesses based on accepted empirical formulae. The rate of increase in temperature of a steel cross-section is determined by the ratio of the heated surface area (A) to the volume (V). This ratio (A/V) has units of m^-1 and is known as the section factor.

The section factor is a measure of the rate at which a steel element will increase in temperature. The higher the value of the section factor, the faster the element will heat up and therefore the thicker the fire protection required to satisfy a stipulated fire protection period. Section factors for three- and four-sided rectangular encasements are given in the tables opposite, tabulated against universal columns and beams.

The data presented in the Knauf Fire Panel Thickness Table (right) is cross-referenced to these tables to establish the board thickness required for different fire ratings.

<table>
<thead>
<tr>
<th>Section (mm)</th>
<th>Mass per metre (kg)</th>
<th>3 sides A/V Hp/A (m^-1)</th>
<th>4 sides A/V Hp/A (m^-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>254 x 254</td>
<td>156</td>
<td>40</td>
<td>50</td>
</tr>
<tr>
<td>230 x 230</td>
<td>132</td>
<td>50</td>
<td>65</td>
</tr>
<tr>
<td>200 x 200</td>
<td>113</td>
<td>65</td>
<td>89</td>
</tr>
<tr>
<td>152 x 152</td>
<td>99</td>
<td>100</td>
<td>135</td>
</tr>
<tr>
<td>122 x 122</td>
<td>87</td>
<td>120</td>
<td>160</td>
</tr>
</tbody>
</table>

Knauf Fire Panel Thickness Table

<table>
<thead>
<tr>
<th>Section (mm)</th>
<th>Mass per metre (kg)</th>
<th>3 sides A/V Hp/A (m^-1)</th>
<th>4 sides A/V Hp/A (m^-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>838 x 292</td>
<td>226</td>
<td>70</td>
<td>80</td>
</tr>
<tr>
<td>726 x 267</td>
<td>197</td>
<td>70</td>
<td>85</td>
</tr>
<tr>
<td>686 x 254</td>
<td>170</td>
<td>75</td>
<td>90</td>
</tr>
<tr>
<td>152 x 152</td>
<td>100</td>
<td>120</td>
<td>160</td>
</tr>
</tbody>
</table>

Section factors for Universal Columns

<table>
<thead>
<tr>
<th>Section (mm)</th>
<th>Mass per metre (kg)</th>
<th>3 sides A/V Hp/A (m^-1)</th>
<th>4 sides A/V Hp/A (m^-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>356 x 305</td>
<td>634</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>356 x 382</td>
<td>200</td>
<td>45</td>
<td>60</td>
</tr>
<tr>
<td>305 x 305</td>
<td>283</td>
<td>30</td>
<td>40</td>
</tr>
<tr>
<td>254 x 254</td>
<td>167</td>
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<td>254 x 254</td>
<td>99</td>
<td>100</td>
<td>135</td>
</tr>
<tr>
<td>254 x 254</td>
<td>87</td>
<td>120</td>
<td>160</td>
</tr>
</tbody>
</table>

Section factors for Universal Beams (cont.)

<table>
<thead>
<tr>
<th>Section (mm)</th>
<th>Mass per metre (kg)</th>
<th>3 sides A/V Hp/A (m^-1)</th>
<th>4 sides A/V Hp/A (m^-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>356 x 305</td>
<td>634</td>
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<td>20</td>
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<tr>
<td>356 x 382</td>
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<td>305 x 305</td>
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<td>254 x 254</td>
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</tr>
<tr>
<td>254 x 254</td>
<td>87</td>
<td>120</td>
<td>160</td>
</tr>
</tbody>
</table>

Note: Tables from 6th edition ‘Steele Barn’, Structural Steel in Buildings.
Knauf Encasement

Installation Procedures

The Knauf Encasement system is designed to be simple and fast to install. Knauf Technical Services are on hand should you have any questions or unusual situations to deal with.

General

The Knauf Encasement system must be installed in full accordance with Knauf’s recommendations.

Column Encasement

Four-sided Column Encasement 1, 2, 3

Cut four lengths of Knauf ‘C’ Channel to the full height of the column. Attach the Knauf ‘C’ Channels to the steel column flanges with Knauf Fixing Clips at maximum 1000mm centres.

Cut two boards to suit column size, allowing for ‘C’ Channel thickness.

Fix the boards to the Knauf ‘C’ Channels with Knauf Screws at 200mm centres. Note the screws must be at least 10mm longer than the total board thickness.

Partial Column Encasement

Assuming a typical three-sided encasement where one of the column flanges straddles a wall, follow the same procedure as outlined for four-sided encasements with the following difference:

Fix Knauf ‘U’ Channel – Perimeter Support channels in continuous lengths, to either the abutting wall face or the inner flange of the column. Use appropriate fixings at 600mm centres.

Beam Encasement

Assuming a typical three-sided encasement where a beam is exposed directly below a level soffit, fix Knauf ‘U’ Channel – Perimeter Support channels to either the adjoining soffit or the top flange of the beam. Install continuous lengths of Knauf ‘U’ Channel – Perimeter Support channel using appropriate fixings at 600mm centres.

Fix two more continuous lengths of Knauf ‘C’ Channel with Knauf Fixing Clips at maximum 750mm centres to the bottom.

Cut two boards to suit column size, allowing for ‘C’ Channel thickness.

Fix the boards to the Knauf ‘C’ Channels with Knauf Screws at 200mm centres. Note the screws must be at least 10mm longer than the total board thickness.

Double Layer Application

Install the first layer as described for either full or partial encasement.

Secure the second layer to the metal with fixings spaced as for the first layer, but avoid coinciding fixing positions.

The board joints must be staggered as with the first layer between adjoining boards and also between the two layers.

Treatment of Board Joints 4, 5, 6, 7

All joints in outer board layers require additional support, either from a length of Knauf ‘C’ Channel fixed between the main ‘C’ Channel supports in the case of single layer systems, or via Knauf Flat Fixing Plate positioned between board layers when a double layer encasement is used. Tape and joint for a seamless finish.

Knauf Training Courses

We offer a range of comprehensive training courses at our purpose-built training schools to ensure the installer is fully up to speed with the latest techniques and regulations. See page 276 for more information.
Knauf Encasement

Application Details
These details represent some of the most common design situations relevant to the Knauf Encasement system. Knauf Technical Services can advise on any specific detail you are trying to achieve.

Four-sided encasement – single layer lining

- Steel column
- Knauf Fixing Clip
- Knauf ‘C’ Channel
- Knauf Fire Panel (number of layers and thickness dependent on section factor (A/V) and protection required)

Note: Jointing not shown for clarity. A Knauf Encasement System must be taped and jointed.

Four-sided encasement – double layer lining

- Steel column
- Knauf ‘C’ Channel
- Knauf Fixing Clip
- Knauf Flat Fixing Plate as nogging behind outer horizontal board joints
- Knauf Fire Panel (number of layers and thickness dependent on section factor (A/V) and protection required)

Note: Jointing not shown for clarity. A Knauf Encasement System must be taped and jointed.

Three-sided encasement – single layer lining

- Knauf ‘U’ Channel – Perimeter Support
- Steel beam
- Knauf Fire Panel (number of layers and thickness dependent on section factor (A/V) and protection required)
- Knauf ‘C’ Channel as nogging behind horizontal board joints
- Knauf Fixing Clip

Note: Jointing not shown for clarity. A Knauf Encasement System must be taped and jointed.

Three-sided encasement – double layer lining

- Knauf ‘U’ Channel – Perimeter Support
- Steel beam
- Knauf Fire Panel (number of layers and thickness dependent on section factor (A/V) and protection required)
- Knauf Flat Fixing Plate as nogging behind outer horizontal board joints
- Knauf Fixing Clip

Note: Jointing not shown for clarity. A Knauf Encasement System must be taped and jointed.

Knauf ‘C’ Channel
as nogging behind horizontal board joints

Knauf Flat Fixing Plate as nogging behind outer horizontal board joints

Knauf Fire Panel (number of layers and thickness dependant on section factor (A/V) and protection required)

Steel column

Steel beam

Where you see these icons in a detail, that detail is particularly relevant to that sector.
Knauf Encasement

Three-sided encasement – plan

Partition abutment – plan

Partition abutment – elevation

Knauf Fire Panel (number of layers and thickness dependant on section factor (A/V) and protection required)

Knauf Intumescent and Acoustic Mastic

Knauf Independent 'I' Stud Wall Lining

Knauf 'U' Channel – Perimeter Support

Knauf Fixing Clip

Knauf Corner Flex Tape

Knauf Performer partition as per specification

Knauf Nailable Plug or suitable fixing at 600mm centres

Steel beam
Specialist Systems

We research, develop, test and refine our products to provide you with high-performance, sustainable and easy-to-install solutions tailored to your needs – whether that includes coping with moisture, sound, fire, impact or more unusual requirements.

This section details our specialist systems that can give your project a genuine performance edge while retaining all the aesthetic and installation flexibility that modern construction demands; Knauf Aquapanel Interior tile backing systems can be completely saturated without losing any performance; seamless Apertura perforated boards offering endless design opportunities with exceptional sound absorption properties; and Knauf Safeboard bringing X-ray protection together with fire and acoustic performance in one easy-to-install board.

Safeboard 176
- Lead-free X-ray shielding
- Fire and acoustic properties
- Easy to design and install

Aquapanel Interior 184
- Systems that won’t deteriorate in water
- Resistant to mould and mildew
- Ideal for walls or floors

Apertura 194
- Unrivalled acoustic performance for ceilings
- Wide range of striking aesthetic options
- Fast and simple to install
X-Ray Partitions with Knauf Safeboard

Knauf Safeboard is an X-ray shielding plasterboard with a barium sulphate core. It effectively and significantly reduces the amount of lead needed within X-ray shielding partitions, in many cases removing the need for lead altogether.

Knauf Safeboard brings X-ray protection together with fire and acoustic performance in one easy-to-install board. Knauf Safeboard is simple to install as it can be scored and snapped like a standard plasterboard. Knauf Safeboard Joint Filler is used to fill joints to complete the radiation shield.

The flexibility to redesign interior layouts and to build-in changes of use to rooms is increasingly important when considering modern, future-adaptable healthcare projects. Knauf X-Ray Partitions can be inexpensively designed to suit mobile X-ray apparatus, and can be retro-fitted or removed far more easily than traditional lead-lined partitions.

How does it work?

What’s in it?
The special ingredient is barium sulphate, a radio contrasting agent able to create a barrier for electromagnetic radiation of specific frequencies.

How does it work?
As with a barium meal, where the X-rays hit the barium and the image shown gives a silhouette of the specific area of interest, Knauf Safeboard is filled with enough of this material to effectively block X-rays across its entire area.

How consistent is it?
Due to significant investment in manufacturing techniques, every single square metre of Knauf Safeboard is tested thoroughly to ensure that the stated level of X-ray shielding will be achieved. There is no degradation of performance during the lifetime of the product, so you can be confident it will shield these potentially harmful rays first time and every time.

How does it compare to traditional lead protection?
All material provides a degree of X-ray protection, this is termed ‘lead equivalence’. At 100 kV, 1.4mm of lead is equivalent to:

- 112mm of reinforced concrete
- 280mm of gypsum board
- 378mm of aerated concrete
- 25mm of Knauf Safeboard

How is it specified?
Understandably, shielding X-rays requires special consideration. Ensure that where necessary you engage a Radiation Protection Advisor (RPA). If it’s a larger project, it’s likely it will require an accompanying Radiation Protection Report.

The report gives a ‘lead code’, which relates to the thickness of lead required. Where Knauf Safeboard differs to lead is that there are differing requirements based on the output of the X-ray source (measured in kV). The table below gives an indication of the number of layers of Knauf Safeboard required in a partition when compared to its lead equivalent.

Step One
Receive a lead code and/or a lead thickness from the Radiation Protection Advisor.

Step Two
Identify the output of the X-ray source (in kV).

Note: The above information is required in order to specify Knauf Safeboard.

Step Three
Cross-reference the lead thickness or lead code with the X-ray output to show the required number of Safeboard layers in a partition.

<table>
<thead>
<tr>
<th>Code 3</th>
<th>Code 4</th>
<th>Code 5</th>
<th>Code 6</th>
<th>Code 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00mm</td>
<td>1.80mm</td>
<td>2.21mm</td>
<td>2.65mm</td>
<td>3.15mm</td>
</tr>
</tbody>
</table>

Note: Should you require protection not covered in the table above, please contact our Technical Services Department on 01795 416259.

60kV | 70kV | 80kV | 90kV | 100kV | 125kV | 150kV |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<td>0.45</td>
<td>0.60</td>
<td>0.75</td>
<td>0.70</td>
<td>1.32mm</td>
<td>1.80mm</td>
<td>2.21mm</td>
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<tr>
<td>0.90</td>
<td>1.20</td>
<td>1.50</td>
<td>1.40</td>
<td>2.21mm</td>
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<td>1.80</td>
<td>2.30</td>
<td>2.90</td>
<td>2.80</td>
<td>3.15mm</td>
<td>3.78mm</td>
<td>3.40mm</td>
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<tr>
<td>2.10</td>
<td>2.60</td>
<td>3.20</td>
<td>3.00</td>
<td>3.78mm</td>
<td>4.41mm</td>
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<td>4.80</td>
<td>4.60</td>
<td>5.14mm</td>
<td>5.87mm</td>
<td>5.44mm</td>
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<tr>
<td>4.00</td>
<td>4.80</td>
<td>5.50</td>
<td>5.30</td>
<td>5.87mm</td>
<td>6.60mm</td>
<td>6.17mm</td>
</tr>
</tbody>
</table>

Generate specifications at www.knauf.co.uk

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Wall Linings
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Flooring
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Encasement
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Safeboard

Knauf X-Ray Partitions incorporate the revolutionary Knauf Safeboard into a Knauf Performer partition system to provide protection from X-ray radiation without the need for lead. Our X-Ray Partitions are light, easy to install and safe.

**Head Track**
- Knauf 'U' Channel secured to the soffit forms head track.
- Knauf Deep Flange 'U' Channel for deflection head details.

**Floor Track**
- Knauf 'U' Channel is secured to the floor and used to frame out openings.

**Insulation**
- Knauf Earthwool Acoustic Roll can be used to improve the acoustic performance.

**Knauf Safeboard**
- Knauf Safeboard brings X-ray protection together with fire and acoustic performance in one easy-to-install board.

**Jointing**
- Knauf Safeboard Joint Filler is used to fill joints and cover screw heads to complete the radiation shield.

**Studs**
- Knauf metal studs simply twist and snap into head and floor tracks.
- Knauf ‘C’ Stud lightweight steel section.
- Knauf ‘I’ Stud allows taller, stiffer partitions.

**Fixings**
- Knauf Drywall Screws are self-tapping and self-drilling and designed to work perfectly with Knauf Safeboard.

**Knauf Safeboard is also suitable for wall lining installations**
- Knauf ‘C’ Channel
- Knauf Universal Bracket
- Knauf ‘U’ Channel Perimeter Support

Generate specifications at [www.knauf.co.uk](http://www.knauf.co.uk)
Application Details

These details represent some of the most common design situations relevant to the Knauf Safeboard system. Knauf Technical Services can advise on any specific detail you are trying to achieve.

Typical Knauf X-Ray Partition detail (4 layer system)

- Knauf Sealant
- 2 layers of 12.5mm Knauf Safeboard
- Knauf ’C’ or ’I’ Studs depending on specification
- Knauf ’C’ Stud as per specification

Knauf Drywall Screws at 300mm centres

Fire rated partitions use Knauf Putty Pads inside or outside depending on sequence of works

Socket box (by others)

12.5mm Knauf Safeboard enclosing the socket with the same number of layers as the main wall lining

Knauf Drywall Screws

Knauf ’U’ Channel

Knauf Safeboard Joint Filler

Knauf Safeboard socket box detail (AA)

- Knauf ’C’ Stud as per specification
- 12.5mm Knauf Safeboard fixed horizontally across stud frame
- Knauf Safeboard Joint Filler
- Knauf Safeboard socket box elevation

Knauf Safeboard is installed within the cavity behind the socket box and should run from floor to a minimum of 500mm past the socket

Min 500mm

Socket box

Socket box

Generate specifications at www.knauf.co.uk
Safeboard Performance information

All Knauf X-Ray Partitions or lining utilise high-quality, purpose-designed Knauf Safeboard, Knauf Studs and Channels and Knauf Accessories. These components are carefully matched to realise the performances detailed below and are tested together as a whole system. Insisting on genuine Knauf components throughout will ensure your Knauf X-Ray Partition or lining is fully covered by our performance warranty.

<table>
<thead>
<tr>
<th>Safeboard S1/13</th>
<th>Sound</th>
<th>Fire*</th>
<th>Max Height**</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 layer of 12.5mm Knauf Safeboard either side of 70mm Knauf ‘C’ Studs at 600mm centres with 25mm Knauf Earthwool Acoustic Roll within the cavity</td>
<td>51dB (R_{L})</td>
<td>30 mins</td>
<td>3600mm</td>
<td>97mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Independent I Stud Lining IWL17/13</th>
<th>Sound</th>
<th>Fire*</th>
<th>Max Height**</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 layers of 12.5mm Knauf Safeboard either side of 70mm Knauf ‘C’ Studs at 600mm centres with 25mm Knauf Earthwool Acoustic Roll within the cavity</td>
<td>59dB (R_{L})</td>
<td>60 mins</td>
<td>4600mm</td>
<td>122mm</td>
</tr>
</tbody>
</table>

** Maximum heights calculated based on a limiting deflection of L/240 at 200Pa.

Framework 1

For the best results, we recommend the use of lightweight metal Knauf ‘C’ or ‘I’ Studs. Studs should be positioned within the channels to coincide with the abutments of the boards and at centres dependant on the performance requirement, maximum of 600mm.

Cutting Knauf Safeboard 2

Knauf Safeboard is easily and accurately cut using a coarse bladed saw, or as you would with standard plasterboard, simply score and snap. Score one side with a sharp knife, cutting through the paper. Snap the board along the score and then cut through the paper on the other side. Smooth any rough areas caused by scoring with a rasp.

Fixing Knauf Safeboard 3

All boards are to be fixed horizontally. Knauf Safeboard should be screwed to the framework with Knauf Drywall Screws at maximum 300mm centres, reduced to 200mm centres at the corners.

Jointing 4, 5

All joints, screw heads, and surface defects should be filled with Knauf Safeboard Joint Filler. If installing a multi-layer system the joints and screw heads on all layers should be filled. No tape is required for jointing Knauf Safeboard. Remove excess filler after 50 minutes in order to achieve a flat surface.

Finishing 6

Once a flawless surface has been achieved Knauf Safeboard can be finished in the same way as any plasterboard. It can be skimmed with Knauf MPFinish, or the joints can be over-coated and feathered out with Knauf Joint Cement Easy Sand or Knauf Joint Cement Lite Easy Sand, followed by a coat of Knauf Wallboard Primer prior to decoration.
Wet Area Partitions

Knauf Aquapanel Interior cement boards will not deteriorate in water and they are resistant to mould and mildew. They add an extra dimension to Knauf Performer Partitions, making them the ideal wet area solution.

Knauf Aquapanel Performer Partitions are designed for full or part tiled situations in commercial non-loadbearing applications. They use fast drywall construction techniques and can be specified for high-traffic wet areas.

These systems use Knauf Aquapanel Interior cement board to receive tiles or Knauf Aquapanel Interior Skim, with moisture resistant Knauf Sound Moisture Panel for the non-wet area side of the partition, if applicable.

The boards are fixed onto Knauf Acoustic ‘C’ Studs using the same techniques as other Knauf Performer partition systems. This results in a tough partition that won’t be damaged by water, ensuring any tiles fitted are protected from failure.

Design freedom
Knauf Aquapanel Performer partitions can be curved to create aesthetic walls and can support heavy marble tiles up to 50kg/m². For a non-tiled finish, where applicable, use Aquapanel Interior Skim as a ready-to-use water-resistant skim coat.

Knauf Aquapanel cement board technology is revolutionising the way buildings are designed and constructed across Europe.

Developed by Knauf USG Systems, Aquapanel Interior cement board gives architects and contractors a proven alternative to brick and block construction in interior applications – where it offers significant performance advantages in wet and high humidity areas together with lower installation costs.

The Aquapanel cement board brand represents a range of extremely durable building materials providing solid substrates for wet areas with solutions for interior and exterior walls, linings, ceilings and floors.

Increased productivity and reduced call-backs
Knauf Aquapanel Interior is exceptionally tough and durable, providing a solid tile backing substrate for wet indoor areas such as swimming pools, leisure centres, changing rooms, toilet areas, laundries, bathrooms and kitchens.

Knauf Aquapanel Performer partitions deliver productivity gains by eliminating the time-consuming methods usually associated with specialised building methods and materials. With its unique score and snap facility Aquapanel Interior is easy to cut – making installation quick and simple.

The revolutionary EasyEdge design feature of Aquapanel Interior in conjunction with polyurethane Aquapanel Joint Adhesive improves adhesion between boards, resulting in a stronger structure.

Knauf Aquapanel Interior is ready-keyed for tiling, so no priming is required. More on-site time savings result from the dry installation system. Overall productivity gains are reflected in shorter job schedules and lower in-place costs.

Avoid expensive tile failures
Tile failure is extremely costly in all instances. With traditional materials, if a tile fails in a wet area you would normally expect the substrate behind to be damaged as well. Not only are there replacement costs of materials, but for many commercial and leisure applications tile failure may necessitate closing part of the premises.

Knauf Aquapanel Interior systems provide the peace of mind that results from specifying a partition or lining that is specifically designed for the job. Galvanised metal components, special screws and high-quality Aquapanel cement board linings ensure that Aquapanel systems are easy to install and continue to perform, even when wet.

Long term, specifying Knauf Aquapanel Performer partitions results in a significant reduction in costly call-backs and reduced maintenance. Tiled areas are expensive and the small investment required to upgrade to Knauf Aquapanel Performer partitions is quickly recouped through minimising future costs.

Aquapanel Interior brochure
A comprehensive Aquapanel Interior brochure is available free from our literature line – call 08700 613700 for your copy, or you can download a copy from our website: www.knauf.co.uk

Inside you will find installation and performance details for our range of Aquapanel Performer partitions and Aquapanel Interior linings.

Note: When used in a swimming pool environment all metal components need to be pre-coated galvanised profiles and manufactured to comply with EN 13964; products with a continuously hot-dip metal coating Z100 – an additional 20 micron organic coating per face.

Other Aquapanel systems:
- External Cladding
- External Soffit Linings
- Tiled Floor Linings

Generate specifications at www.knauf.co.uk
Knauf Aquapanel Interior

Knauf Aquapanel Interior cement board is exceptionally tough and durable, providing a solid tile backing substrate for wet indoor areas such as swimming pools, leisure centres, changing rooms, toilet areas, laundries, bathrooms and kitchens.

**Key Features**
- Will not deteriorate in water
- Supports tiles up to 50kg/m²
- Resistant to mould and mildew
- Tough, strong and impact resistant
- Easy to cut and install

**Other Component**

- **Knauf Sealant** – used to seal gaps to prevent airborne transmission of sound and vibration.

**Our range of Partition Solutions includes:**
- Performer 16
- Silent Spacemaker 48
- Isolator 60
- Shaftwall 72

**Knauf Aquapanel Interior partitions**

Knauf Aquapanel Interior partitions are designed for full or part tiled situations in commercial non-loadbearing applications. They use fast drywall construction techniques and can be specified with confidence in wet areas.

**Fixings**

- **Knauf Aquapanel Maxi Screws** are corrosion-resistant and designed for fixing Knauf Aquapanel Interior cement boards.

**Jointing**

- **Knauf Aquapanel Interior Joint Adhesive** – PU gun-applied adhesive used for jointing Knauf Aquapanel Interior cement boards.

*For smaller domestic jobs where studs are 450mm centres maximum Knauf Aquapanel Interior Tape can be bedded in tile adhesive to reinforce joints. For more information refer to the Knauf Aquapanel Interior brochure, or Knauf Technical Services.

**Stud**

Knauf Acoustic ‘C’ Studs are lightweight steel sections used to form the vertical frame of the Knauf Aquapanel Interior partitions.

**Boards**

Knauf Aquapanel Interior partitions can be tiled on one or both sides.

**Floor Track**

Knauf ‘U’ Channel is secured to the soffit forms floor track.

**Head Track**

Knauf ‘U’ Channel secured to the soffit forms head track.

**Knauf Deep Flange ‘U’ Channel for deflection head details.**

**Knauf Deep Flange ‘U’ Channel for deflection head details.**

**Knauf Deep Flange ‘U’ Channel for deflection head details.**

**Knauf Deep Flange ‘U’ Channel for deflection head details.**

**Knauf Deep Flange ‘U’ Channel for deflection head details.**

**Knauf Deep Flange ‘U’ Channel for deflection head details.**

**Knauf Deep Flange ‘U’ Channel for deflection head details.**

**Knauf Deep Flange ‘U’ Channel for deflection head details.**
Knauf Aquapanel Interior

Performance information

Knauf Aquapanel Interior systems provide the peace of mind that results from specifying a partition or lining that is specifically designed for the job. Galvanised metal components, specialist screws and high-quality Knauf Aquapanel Interior cement board linings ensure that Knauf Aquapanel Interior partitions are easy to install and continue to perform, even when wet.

<table>
<thead>
<tr>
<th>Aquapanel AI/11</th>
<th>Sound</th>
<th>Fire*</th>
<th>Max Height**</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.5mm Knauf Aquapanel Interior to each side of 50mm Knauf Acoustic ‘C’ Studs at 600mm centres with 50mm Knauf Earthwool Acoustic Roll within the cavity</td>
<td>44dB(Rw)</td>
<td>30mins</td>
<td>3600mm</td>
<td>97mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aquapanel AI/13</th>
<th>Sound</th>
<th>Fire*</th>
<th>Max Height**</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.5mm Knauf Aquapanel Interior to wet room side of 50mm Knauf Acoustic ‘C’ Studs at 600mm centres and 12.5mm Knauf Performance Plus to the room side with 50mm Knauf Earthwool Acoustic Roll within the cavity</td>
<td>45dB(Rw)</td>
<td>30mins</td>
<td>3600mm</td>
<td>97mm</td>
</tr>
</tbody>
</table>

Other Aquapanel Systems:
- Exterior Cladding 146
- External Soffit Linings 158
- Tiled Floor Linings 192

Further information:
A comprehensive Aquapanel Interior brochure is available free from our literature line – call 08700 613700 for your copy, or you can download a copy from our website: www.knauf.co.uk

Generate specifications at www.knauf.co.uk

Knauf Aquapanel Interior
Installation procedure – large commercial projects

For larger commercial applications, such as changing rooms and leisure centres, Knauf Aquapanel Interior commercial systems use an innovative glued joint system to allow 600mm stud centres with no loss in performance. Please contact Knauf Technical Services for further information.

1. Framework
2. We recommend the use of lightweight metal Knauf Acoustic ‘C’ Studs. Using metal studs ensures accuracy, and they will not move or twist due to shrinkage or water ingress. In either case, set studs at maximum 600mm centres.
3. Align the board
4. Knauf Aquapanel Interior Cement Boards are laid horizontally. Start at one end and align the first board along the studs. Secure the board with Knauf Aquapanel Maxi Screws (SN) at maximum 250mm centres, ensuring that the screws are at least 15mm from the board edge. Do not overdrive the screws.
5. Clean the adjacent board edges
6. In order to ensure that maximum adhesion is achieved when jointing, the adjacent edges of the fixed board and the next board in sequence must be cleaned. Simply clean the edges with a wet brush to remove traces of dust – the edges do not need to be soaked.
7. Applying adhesive
8. Using a suitable gun, apply a continuous bead of Knauf Aquapanel Joint Adhesive to the adjacent edge of the fixed board(s). The bead should be of sufficient size to fill the joint fully when the next board is offered up.

Important note: Knauf Aquapanel Interior Joint Adhesive must be applied before the next board is fixed, not after.

Place the next board
Align the next board and push it firmly into the bed of adhesive. The gap between boards should be less than 1mm. Secure the board with Knauf Aquapanel Maxi Screws (SN).

Continue the process
Continue to clean the adjacent edges, apply Knauf Aquapanel Interior Joint Adhesive and place and secure the next board.

Leave adhesive to dry
In order to achieve a strong bond and to form a complete joint, the Knauf Aquapanel Interior Joint Adhesive needs to be left to cure and expand before the excess can be scraped off.

Scrape off the excess adhesive
Scrape off the excess Knauf Aquapanel Interior Joint Adhesive the next day using a flexible steel scraper.
Knauf Aquapanel Interior

Installation procedure – domestic/small commercial projects
Knauf Aquapanel Interior systems can be designed to meet the requirements of Approved Document E and can be installed with either treated timber or metal studs. Knauf Aquapanel Interior is jointed with tile adhesive and Knauf Aquapanel Interior Joint Tape prior to tiling. Below are the installation instructions for domestic/small commercial projects using the Knauf Aquapanel Interior system.

Framework 1
For the best results, we recommend the use of lightweight metal Knauf Acoustic ‘C’ Studs. Using metal studs ensures accuracy, and they will not move or twist due to shrinkage or water ingress. In any case, set studs at maximum 450mm centres.

Cutting Knauf Aquapanel Interior Cement Board 2,3
Knauf Aquapanel Interior is easily and accurately cut using a coarse bladed saw, or by simply scoring and snapping. Score one side with a sharp knife, cutting through the mesh. Snap the board along the score, then cut through mesh on other side. Smooth any rough areas caused by scoring with a rasp.

Fixing Knauf Aquapanel Interior 4
Knauf Aquapanel Interior should be screwed to the framework at maximum 250mm centres, with screws 15mm from the board edge. Use 25mm Knauf Aquapanel Maxi Screws (SN) if fixing into metal studs, and 40mm Knauf Aquapanel Interior Screws if fixing into timber studs. Ensure all joints between boards are staggered and leave a 3mm gap.

Reinforcing joints 5
All joints should be filled with flexible tile adhesive, and Knauf Aquapanel Interior Joint Tape embedded into the wet adhesive.

Tiling 6
Always use a quality polymer modified based flexible tile adhesive, following the manufacturer’s instructions. Tile on the smooth side of the board.

Sealing interfaces
Permanently flexible sealant should be used at corners, at wall to floor connections, around penetrations, and at interfaces with baths and shower trays, in combination with sealing tape in wet areas.
Tiled Floor Linings

Knauf Aquapanel Floor Tile Underlay is a strong, thin cement board that is unaffected by water, making it the ideal thin substrate for tiles onto subfloors.

Professionals have been installing Knauf Aquapanel Interior Cement Board in wet areas for many years, knowing it is the most effective way to stop the causes of tile failure. Now Knauf Aquapanel Interior technology is available in a thin tile underlay for floors.

Tiled Floor Linings

Knauf Aquapanel Floor Tile Underlay is completely unaffected by water, virtually eliminating these problems.

At only 6mm thick, room height is not compromised. Knauf Aquapanel Floor Tile Underlay boards and components are non-organic, so there is no chance of mould or fungus growth. You can use Knauf Aquapanel with the confidence that you’re using the most suitable product for the job.

Get smart about tile underlay

Knauf Aquapanel Floor Tile Underlay is made from tough Portland cement and has a coated glass fibre mesh embedded in the core. Not only does this give excellent stability, it also enables the installer to score and snap using standard tools.

For ease of handling Knauf Aquapanel Floor Tile Underlay comes in a convenient 900mm x 1200mm size and only weighs 8kg, making it simple to lift and transport.

Ease of installation, ease of handling and total confidence in performance make Knauf Aquapanel Floor Tile Underlay the only choice to protect your tiles.

Apply adhesive 1

Apply a complete bed of flexible tile adhesive (class C2/S1 acc. EN 12004/12002) to the subfloor, in accordance with manufacturer’s guidelines.

Lay the boards 2

The first Knauf Aquapanel Floor Tile Underlay board should be fitted in the corner farthest from the door. Ensure the panel is laid in such a way that the joints are staggered between the Knauf Floor Tile Underlay board and the subfloor (minimum 200mm staggering). No two joints should coincide.

Mechanically fix the boards 3

Leave a gap of 3–5mm between each board and screw the board to the subfloor using Knauf Aquapanel Maxi Screws (SN) 25.

Screwing the boards 4

The screws should be spaced 250mm or less in all directions. Ensure the distance from the edge of the board is at least 15mm. Avoid cross joints.

Joint the boards 5

Fill all the joints with flexible tile adhesive (class C2/S1 acc. EN 12004/12002), then embed Knauf Aquapanel Joint Tape. Allow for the adhesive in the joints to dry.

Lay Tiles 6

Lay tiles directly onto the Knauf Aquapanel Floor Tile Underlay using a complete bed of flexible tile adhesive (class C2/S1 acc. EN 12004/12002), in accordance with manufacturer’s guidelines.

Why specify Aquapanel Floor Tile Underlay?

• Minimum effect on floor height at only 6mm thick
• Suitable for all kinds of tiles including ceramic, mosaic and natural stone
• Light and easy for the installer to handle
• Solid Portland cement substrate
• Incorporates shock-proof EasyEdge edge on both sides
• Will not deteriorate in water
• Resistant to mould and mildew
• Quick and simple score and snap cutting, and no pre-drilling required

Aquapanel Floor Tile Underlay is quick and easy to install and has minimal impact on floor height.
Stylish lines
Knauf Apertura Linear offers the fastest installation of any acoustic plasterboard system available, the ideal choice for school and commercial building renovation and other time-critical applications.

The industry-leading installation speed is made possible by the unique edge design, with precision-engineered butt joints on all four edges of the board. Apertura Linear boards butt together quickly and easily, allowing perfect alignment of perforation patterns in a fraction of the time.

Unrivalled acoustic performance
Knauf Apertura perforated plasterboards are designed to absorb sound (reverberant) energy. The holes in Knauf Apertura allow noise to pass through but its path is disrupted, taking energy out on its return and reducing echoes in a room. The clarity of speech or music can be tuned by the choice of pattern, using Knauf Insulation or adjusting the void depth.

How it works
Knauf Apertura perforated and patterned boards are designed to absorb sound (reverberant) energy. The holes in Knauf Apertura allow noise to pass through but its path is disrupted, taking energy out on its return and reducing echoes in a room. The clarity of speech or music can be tuned by the choice of pattern, using Knauf Insulation or adjusting the void depth.

Achieving a performance class rating
The rate of absorption is classified in accordance with BS EN ISO 11654, giving each Apertura pattern a class rating. Regulations such as Approved Document E for residential, BB 93 for schools and HTM 08-01 for hospitals give guidance on the performance required.

Knauf Apertura ceiling systems achieve a minimum Class D sound absorption performance with a void depth of just 65mm. Increasing the void depth and adding insulation with select boards can improve the sound absorption performance up to an industry-leading Class B.

The following pages detail the sound absorption performance of the different perforations and patterns available.
**Knauf Apertura systems**

Knauf Apertura systems give you the freedom to carefully control the acoustic properties of a room while creating stunning aesthetics.

### Metal components
- Knauf MF Channel
- Knauf MF Primary Support Channel

### Knauf Hangers
- Knauf Strap Hanger
- Knauf Angle Section
- Knauf Strap Hanger

### Knauf Apertura boards
- Knauf Apertura
- Knauf Apertura Linear

### Other components
- Knauf Apertura installation kit
- Knauf Drywall Screws
- Knauf Apertura Linear Caps
- Knauf MF Nut and Bolt

### Knauf Jointing
- Knauf Uniflott
- Knauf Uniflott Applicator

### Knauf Apertura is also suitable for wall lining installations
- Knauf Apertura ‘U’ Mounting Bracket
- Knauf Apertura ‘C’ Channel
- Knauf Apertura ‘U’ Channel Parameter Support

Generate specifications at www.knauf.co.uk
### Perforated Apertura: Circular 6/18

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* 25mm Knauf Earthwool Acoustic Roll Insulation

**Board size**
- Width: 1188mm
- Length: 1998mm
- Weight: 10.7 kg/m²

**FF Material No.**
- White Lining: 94387
- Black Lining: 94386

### Perforated Apertura: Circular 8/18

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**Board size**
- Width: 1188mm
- Length: 1998mm
- Weight: 9.9 kg/m²

**FF Material No.**
- White Lining: 94397
- Black Lining: 94394

### Perforated Apertura: Circular 10/23

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**Board size**
- Width: 1199mm
- Length: 1998mm
- Weight: 9.9 kg/m²

**FF Material No.**
- White Lining: 94421
- Black Lining: 94420

**Linear Material No.**
- White Lining: 146213
- Black Lining: 146212

### Perforated Apertura: Circular 12/25

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**Board size**
- Width: 1200mm
- Length: 2000mm
- Weight: 9.6 kg/m²

**FF Material No.**
- White Lining: 94448
- Black Lining: 94447

### Perforated Apertura: Circular 15/30

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**Board size**
- Width: 1200mm
- Length: 1980mm
- Weight: 9.3 kg/m²

**FF Material No.**
- White Lining: 94446
- Black Lining: 94445

### Perforated Apertura: Circular 8/12/50

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**Board size**
- Width: 1200mm
- Length: 1998mm
- Weight: 10.2 kg/m²

**FF Material No.**
- White Lining: 94465
- Black Lining: 94464

**Linear Material No.**
- White Lining: 146213
- Black Lining: 146212

**Area of perforation**
- 8.7%
- 18.1%
- 15.5%
- 19.6%
- 14.8%
- 13.1%
### Perforated Apertura: Circular/Random

#### Perforated Apertura: Circular 12/20/66

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* 25mm Knauf Earthwool Acoustic Roll Insulation

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* 25mm Knauf Earthwool Acoustic Roll Insulation

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#### Perforated Apertura: Random 12/20/35

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* 25mm Knauf Earthwool Acoustic Roll Insulation

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### Perforated Apertura: Square

#### Perforated Apertura: Square 8/18

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<td>200mm with insulation*</td>
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<td>0.70</td>
<td>0.70</td>
<td>0.70</td>
<td>0.70</td>
<td>0.70</td>
<td>Class C</td>
<td></td>
</tr>
<tr>
<td>400mm</td>
<td>0.55</td>
<td>0.70</td>
<td>0.65</td>
<td>0.65</td>
<td>0.60</td>
<td>0.60</td>
<td>Class C</td>
<td></td>
</tr>
<tr>
<td>400mm with insulation*</td>
<td>0.60</td>
<td>0.70</td>
<td>0.70</td>
<td>0.70</td>
<td>0.70</td>
<td>0.70</td>
<td>Class C</td>
<td></td>
</tr>
</tbody>
</table>

* 25mm Knauf Earthwool Acoustic Roll Insulation

<table>
<thead>
<tr>
<th>Board size</th>
<th>FF Material No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width 1188mm</td>
<td>White Lining 146475</td>
</tr>
<tr>
<td>Length 1998mm</td>
<td>Black Lining 146474</td>
</tr>
<tr>
<td>Weight 9.4 kg/m²</td>
<td></td>
</tr>
</tbody>
</table>

#### Perforated Apertura: Square 12/25

<table>
<thead>
<tr>
<th>Void depth</th>
<th>Hz</th>
<th>125</th>
<th>250</th>
<th>500</th>
<th>1000</th>
<th>2000</th>
<th>4000</th>
<th>Perform. Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>65mm</td>
<td>0.10</td>
<td>0.30</td>
<td>0.60</td>
<td>0.80</td>
<td>0.70</td>
<td>0.65</td>
<td>Class C</td>
<td></td>
</tr>
<tr>
<td>65mm with insulation*</td>
<td>0.30</td>
<td>0.55</td>
<td>0.80</td>
<td>0.80</td>
<td>0.75</td>
<td>0.75</td>
<td>Class C</td>
<td></td>
</tr>
<tr>
<td>200mm</td>
<td>0.45</td>
<td>0.65</td>
<td>0.70</td>
<td>0.65</td>
<td>0.60</td>
<td>0.70</td>
<td>Class C</td>
<td></td>
</tr>
<tr>
<td>200mm with insulation*</td>
<td>0.55</td>
<td>0.70</td>
<td>0.70</td>
<td>0.70</td>
<td>0.70</td>
<td>0.70</td>
<td>Class C</td>
<td></td>
</tr>
<tr>
<td>400mm</td>
<td>0.55</td>
<td>0.70</td>
<td>0.65</td>
<td>0.65</td>
<td>0.60</td>
<td>0.60</td>
<td>Class C</td>
<td></td>
</tr>
<tr>
<td>400mm with insulation*</td>
<td>0.60</td>
<td>0.70</td>
<td>0.70</td>
<td>0.70</td>
<td>0.70</td>
<td>0.70</td>
<td>Class C</td>
<td></td>
</tr>
</tbody>
</table>

* 25mm Knauf Earthwool Acoustic Roll Insulation

<table>
<thead>
<tr>
<th>Board size</th>
<th>FF Material No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width 1188mm</td>
<td>White Lining 146438</td>
</tr>
<tr>
<td>Length 2000mm</td>
<td>Black Lining 146437</td>
</tr>
<tr>
<td>Weight 9.2 kg/m²</td>
<td></td>
</tr>
</tbody>
</table>

### Area of perforation

- Circular/Random: 19.6%
- Square: 19.8%
- Random 8/15/20: 9.9%
- Random 12/20/35: 9.8%
- Square 8/18: 9.6%
- Square 12/25: 9.6%
## Patterned Apertura: Square/Slotted

### Patterned Apertura: Acoustic Square Type B4

<table>
<thead>
<tr>
<th>Void depth</th>
<th>Hz 125</th>
<th>250</th>
<th>500</th>
<th>1000</th>
<th>2000</th>
<th>4000</th>
<th>Perform.</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>65mm</td>
<td>0.15</td>
<td>0.35</td>
<td>0.55</td>
<td>0.65</td>
<td>0.55</td>
<td>0.45</td>
<td>Class D</td>
<td></td>
</tr>
<tr>
<td>65mm with insulation*</td>
<td>0.35</td>
<td>0.55</td>
<td>0.70</td>
<td>0.65</td>
<td>0.55</td>
<td>0.50</td>
<td>Class C</td>
<td></td>
</tr>
<tr>
<td>200mm</td>
<td>0.45</td>
<td>0.65</td>
<td>0.75</td>
<td>0.70</td>
<td>0.60</td>
<td>0.50</td>
<td>Class C</td>
<td></td>
</tr>
<tr>
<td>200mm with insulation*</td>
<td>0.50</td>
<td>0.65</td>
<td>0.80</td>
<td>0.65</td>
<td>0.55</td>
<td>0.50</td>
<td>Class D</td>
<td></td>
</tr>
<tr>
<td>400mm</td>
<td>0.50</td>
<td>0.60</td>
<td>0.65</td>
<td>0.60</td>
<td>0.65</td>
<td>0.55</td>
<td>Class C</td>
<td></td>
</tr>
<tr>
<td>400mm with insulation*</td>
<td>0.55</td>
<td>0.60</td>
<td>0.65</td>
<td>0.60</td>
<td>0.65</td>
<td>0.55</td>
<td>Class C</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* 25mm Knauf Earthwool Acoustic Roll Insulation

** Slotline patterned boards have a square edge.

** FF Material No.**

Width: 1200mm
Length: 2400mm
Weight: 9.6 kg/m²

Area of perforation 14.4%  

### Patterned Apertura: Acoustic Square Type B6

<table>
<thead>
<tr>
<th>Void depth</th>
<th>Hz 125</th>
<th>250</th>
<th>500</th>
<th>1000</th>
<th>2000</th>
<th>4000</th>
<th>Perform.</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>65mm</td>
<td>0.15</td>
<td>0.30</td>
<td>0.60</td>
<td>0.70</td>
<td>0.60</td>
<td>0.45</td>
<td>Class D</td>
<td></td>
</tr>
<tr>
<td>65mm with insulation*</td>
<td>0.35</td>
<td>0.55</td>
<td>0.75</td>
<td>0.75</td>
<td>0.60</td>
<td>0.55</td>
<td>Class C</td>
<td></td>
</tr>
<tr>
<td>200mm</td>
<td>0.50</td>
<td>0.65</td>
<td>0.70</td>
<td>0.65</td>
<td>0.55</td>
<td>0.50</td>
<td>Class D</td>
<td></td>
</tr>
<tr>
<td>200mm with insulation*</td>
<td>0.55</td>
<td>0.65</td>
<td>0.70</td>
<td>0.65</td>
<td>0.60</td>
<td>0.55</td>
<td>Class C</td>
<td></td>
</tr>
<tr>
<td>400mm</td>
<td>0.55</td>
<td>0.65</td>
<td>0.60</td>
<td>0.65</td>
<td>0.60</td>
<td>0.55</td>
<td>Class C</td>
<td></td>
</tr>
<tr>
<td>400mm with insulation*</td>
<td>0.60</td>
<td>0.65</td>
<td>0.65</td>
<td>0.65</td>
<td>0.60</td>
<td>0.55</td>
<td>Class C</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* 25mm Knauf Earthwool Acoustic Roll Insulation

** Slotline patterned boards have a square edge.

** FF Material No.**

Width: 1200mm
Length: 2400mm
Weight: 9.6 kg/m²

Area of perforation 16.3%  

### Patterned Apertura: Slot Type B4

<table>
<thead>
<tr>
<th>Void depth</th>
<th>Hz 125</th>
<th>250</th>
<th>500</th>
<th>1000</th>
<th>2000</th>
<th>4000</th>
<th>Perform.</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>65mm</td>
<td>0.15</td>
<td>0.35</td>
<td>0.65</td>
<td>0.65</td>
<td>0.50</td>
<td>0.45</td>
<td>Class D</td>
<td></td>
</tr>
<tr>
<td>65mm with insulation*</td>
<td>0.35</td>
<td>0.55</td>
<td>0.70</td>
<td>0.65</td>
<td>0.55</td>
<td>0.50</td>
<td>Class C</td>
<td></td>
</tr>
<tr>
<td>200mm</td>
<td>0.45</td>
<td>0.65</td>
<td>0.75</td>
<td>0.70</td>
<td>0.60</td>
<td>0.55</td>
<td>Class C</td>
<td></td>
</tr>
<tr>
<td>200mm with insulation*</td>
<td>0.50</td>
<td>0.65</td>
<td>0.80</td>
<td>0.65</td>
<td>0.55</td>
<td>0.50</td>
<td>Class D</td>
<td></td>
</tr>
<tr>
<td>400mm</td>
<td>0.55</td>
<td>0.65</td>
<td>0.65</td>
<td>0.65</td>
<td>0.65</td>
<td>0.55</td>
<td>Class C</td>
<td></td>
</tr>
<tr>
<td>400mm with insulation*</td>
<td>0.60</td>
<td>0.65</td>
<td>0.65</td>
<td>0.65</td>
<td>0.65</td>
<td>0.55</td>
<td>Class C</td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* 25mm Knauf Earthwool Acoustic Roll Insulation

** Slotline patterned boards have a square edge.

** SE Material No.**

Width: 1200mm
Length: 2400mm
Weight: 9.6 kg/m²

Area of perforation 13.7%  

### Patterned Apertura: Slot Type B6

<table>
<thead>
<tr>
<th>Void depth</th>
<th>Hz 125</th>
<th>250</th>
<th>500</th>
<th>1000</th>
<th>2000</th>
<th>4000</th>
<th>Perform.</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>65mm</td>
<td>0.15</td>
<td>0.35</td>
<td>0.60</td>
<td>0.65</td>
<td>0.50</td>
<td>0.40</td>
<td>Class D</td>
<td></td>
</tr>
<tr>
<td>65mm with insulation*</td>
<td>0.35</td>
<td>0.55</td>
<td>0.75</td>
<td>0.70</td>
<td>0.60</td>
<td>0.55</td>
<td>Class C</td>
<td></td>
</tr>
<tr>
<td>200mm</td>
<td>0.45</td>
<td>0.60</td>
<td>0.65</td>
<td>0.60</td>
<td>0.55</td>
<td>0.45</td>
<td>Class C</td>
<td></td>
</tr>
<tr>
<td>200mm with insulation*</td>
<td>0.50</td>
<td>0.65</td>
<td>0.80</td>
<td>0.65</td>
<td>0.55</td>
<td>0.50</td>
<td>Class D</td>
<td></td>
</tr>
<tr>
<td>400mm</td>
<td>0.55</td>
<td>0.65</td>
<td>0.65</td>
<td>0.65</td>
<td>0.65</td>
<td>0.55</td>
<td>Class C</td>
<td></td>
</tr>
<tr>
<td>400mm with insulation*</td>
<td>0.60</td>
<td>0.65</td>
<td>0.65</td>
<td>0.65</td>
<td>0.65</td>
<td>0.55</td>
<td>Class C</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* 25mm Knauf Earthwool Acoustic Roll Insulation

** Slotline patterned boards have a square edge.

** SE Material No.**

Width: 1200mm
Length: 2400mm
Weight: 9.6 kg/m²

Area of perforation 15.7%  

---

** Generate specifications at www.knauf.co.uk**
Installing an Apertura Wall Liner

Knauf Apertura Wall Liner is specifically designed for use with Knauf Apertura boards to create the rigidity required for the seamless finish. The system provides a variable stand-off from the wall of between 30mm and 125mm.

Fixing Apertura ‘U’ Channel to floor and soffit 1
Mark guidelines on the floor and soffit to establish the positions of the floor and head tracks relative to the stand-off distance required. Mark vertical guidelines on the background to establish the Knauf Apertura ‘C’ Channel positions (see table opposite). Knauf Apertura ‘U’ Channels should be used for the head and base along the guidelines using fixings appropriate for the background. Fix at maximum 600mm centres.

Positioning of Apertura ‘U’ Mounting Brackets 2
Mark the wall with the location of Knauf ‘U’ Mounting Brackets in line with the channel guidelines and at maximum 900mm vertical centres.

Positioning of Knauf Apertura ‘C’ Mounting Channels 3
Fix Knauf Apertura ‘U’ Mounting Brackets to the background, at the marked positions, using fixings appropriate for the background. Offer up the Knauf Apertura ‘C’ Channels to engage with the Knauf Apertura ‘U’ Mounting Brackets and in the floor and head tracks. Extend the length of Knauf Apertura ‘C’ Channels, where necessary, by using Knauf Apertura ‘C’ Channel Connectors. Adjust the channels for position and alignment.

Fixing Knauf Apertura ‘C’ Channel 4
Secure the Knauf Apertura ‘C’ Channels to the Knauf Apertura ‘U’ Mounting Brackets using Knauf Wafer Head Jackpoint Screws. Depending on the stand-off distance, bend back the legs of the cramped ‘U’ Mounting Brackets so as not to obstruct the fixing of the Apertura board. Fix Knauf Angle Sections at external corners and reveals where appropriate.

Fixing Knauf Apertura Boards 5
Start at one end of the lining and work along. Fix Knauf Apertura boards using 25mm Knauf Drywall Screws at 300mm centres, reduced to 200mm at the corners placed carefully between the perforations. Knauf Apertura boards should be fixed parallel to the vertical Apertura ‘C’ Channels. Adjust the channels for position and alignment.

Apertura installation

When installing a Knauf Apertura system the instructions can be broken down into two main sections: the different support framework for wall and ceiling application and the boards themselves. The boards can also be split into two sections: Knauf Apertura boards for a seamless finish and Knauf Apertura Linear boards for fast installation which does not require joining.

Ensure that the ceiling or wall liner system has been set out following the installation guidance detailed in the manual to ensure the correct channel spacings are used to suit the board perforation size.

The table below details the required channel centres for Knauf Apertura Wall Liner and for Knauf MF Ceiling Channels. For full MF Ceiling installation procedures please refer to page 128.

<table>
<thead>
<tr>
<th>Perforation</th>
<th>Size (mm)</th>
<th>Channel centres (mm)</th>
<th>Weight (kg/m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Straight-Line Circular Perforation 6/18</td>
<td>1998</td>
<td>396</td>
<td>333</td>
</tr>
<tr>
<td>Straight-Line Circular Perforation 8/18</td>
<td>1998</td>
<td>396</td>
<td>333</td>
</tr>
<tr>
<td>Alternate Circular Perforation 10/23</td>
<td>2001</td>
<td>400</td>
<td>333.5</td>
</tr>
<tr>
<td>Alternate Circular Perforation 12/25</td>
<td>2000</td>
<td>400</td>
<td>330</td>
</tr>
<tr>
<td>Random Circular Perforation 15/30</td>
<td>1980</td>
<td>400</td>
<td>325</td>
</tr>
<tr>
<td>Straight-Line Square Perforation 8/18</td>
<td>1998</td>
<td>396</td>
<td>333</td>
</tr>
<tr>
<td>Acoustic Square B4, B6</td>
<td>2400</td>
<td>400</td>
<td>300</td>
</tr>
<tr>
<td>Acoustic Slot B4, B6</td>
<td>2400</td>
<td>400</td>
<td>300</td>
</tr>
</tbody>
</table>

Note: Always control the overall image of the building line through the straights and diagonals of the rows of perforations. Lay perforated boards across the joins.
Installing Knauf Apertura, standard FF edge

Fixing Knauf Apertura board 1
Align the first board in the middle of the ceiling and fix using 25mm Knauf Drywall screws at max. 200mm centres. Offer up the next board ensuring that the board pattern is aligned correctly, using Knauf Apertura Installation aids as necessary. Continue fixing boards along the long edge and then with the short edge, until the ceiling is finished.

Applying Knauf Uniflott 2
Cut the nozzle of the applicator to suit the joint width. Using it, with a standard sealant gun, fully fill the joint. Knauf Uniflott is a chemical-setting compound and will set in approximately 90 minutes, so ensure that the applicator is rinsed out with water after use.

Carefully remove the excess 3
When the Knauf Uniflott has stiffened in the joints, remove any excess with a jointing knife, being careful not to damage the paper. Once the Knauf Uniflott has fully set, apply a second coat with a standard jointing knife in order to ensure a flush joint is achieved. This stage is critical to achieving a perfect seamless finish, so care should be taken to ensure the joints are completely filled, applying a second coat if necessary.

Sanding 4
Once the joints are completely filled and set, sand to a flat and even finish.

Decoration 5
Apply an undiluted coat of Knauf Wallboard Primer to the entire surface to equalise the suction levels between the joints and the boards. The surface can then be decorated using a foam rubber roller.

Frieze options

1. Flush-jointing to plasterboard
Prior to fixing the Knauf Apertura boards, fix a minimum 100mm wide strip of 12.5mm Square Edge Knauf Wallboard to the perimeter framework. Chamfer the edge of the Wallboard where it meets the board and leave a 3mm gap ready for jointing with Uniflott.

2. Flush-jointing to Apertura
Fix Knauf Apertura board as described above continuing to the perimeter. Mark out the desired position of the frieze with a chalk line, and fix low stick masking tape to the inside. Any holes remaining within the frieze area can then be filled with Knauf Uniflott to create a smooth surface.

3. Raised feature using plasterboard
Fix Knauf Apertura boards as described above, continuing to the perimeter. To create the raised frieze, fix a strip of 12.5mm Square Edge Knauf Wallboard, at least 100mm wide, on top of Knauf Apertura, through to the perimeter framework.
Installing Knauf Apertura Linear

Knauf Apertura Linear boards, when used in conjunction with Knauf Apertura Linear Caps, create an extremely quick and easy-to-install ceiling solution that doesn't require any jointing. Each board has two notched edges and two lapped edges which allow for an easy and precise alignment.

Installing the Knauf Linear Caps
Always place the notched edge adjacent to the lapped edge of the next board. Starting in the middle of the room, fix the first boards in place using Knauf Linear Caps. The cap should be pushed into the perforation in line with the support framework.

Fixing the boards
Once the cap is in place, fix the board to the framework using Knauf Linear screws (supplied with the caps). Continue to fix the first row of boards then use a reference line to check that the perforation alignment is correct. Fix the second row of boards again starting in the middle of the room to form a cross shape. Finally fill in the four corners to complete the room.

Knauf Apertura

Application details
These details represent some of the most common design situations relevant to the Knauf Apertura system. Knauf Drywall Technical Services can advise on any specific detail you are trying to achieve.

Knauf Apertura Wall Liner

External corner

Internal corner

Knauf Apertura Board
Knauf Apertura 'C' Channel secured to Knauf Apertura 'U' Mounting Bracket
Knauf Apertura 'U' Mounting Bracket with leg snipped and bent to retain channel

25 x 25 mm Knauf Angle Section
Knauf Apertura 'C' Channel secured to Knauf Apertura 'U' Mounting Bracket
Knauf Apertura 'U' Mounting Bracket with leg snipped and bent to retain channel

Knauf Apertura Board
Knauf Apertura 'C' Channel
Knauf Apertura 'U' Channel
Knauf Apertura 'U' Mounting Bracket secured to background and screw-fixed to channel

Structural line
Knauf Angle Section
Knauf MF Primary Support Channel
Knauf MF Connecting Clip
Knauf MF Ceiling Channel
Knauf Apertura Board

Section through ceiling and wall abutment
Basic assembly of the Apertura Ceiling System

Head and Floor

Generate specifications at www.knauf.co.uk
Finishes

The visual quality of your finished wall or ceiling is dependent on the quality of workmanship and quality of the materials used.

Knauf lead the way in modern, highly developed finishing materials that provide the best possible final surface while making life as easy as possible for the trades applying them. And our solutions are significantly faster on-site than traditional materials.

Finishes

Taping and Jointing
Partitions and Ceilings 212
Internal and External Corners 214

Spray Plastering
One Coat over Masonry (Knauf MP75) 218
Finishing Directly over Concrete, Plasterboard, etc. (Knauf Readymix) 219
Finishing over Plasterboard (Knauf MPfinish) 220
**Taping and Jointing**

Knauf’s superb range of jointing materials lead the market in ease of application, easy sanding, joint strength and quality of finish.

**Application method**

1. Apply self-adhesive Knauf Fleece Tape to joint.

2. Apply Knauf Joint Filler over the tape.

3. Once the Knauf Joint Filler has fully set, apply a coat of Knauf Joint Cement Easy Sand or Knauf Joint Cement Lite Easy Sand over the entire layer to a width of approximately 250mm and leave to dry; usually overnight.

4. Once dry, apply the final coat of Knauf Joint Cement Easy Sand or Knauf Joint Cement Lite Easy Sand to a width of approximately 300mm and leave to dry. Sand to a seamless finish using 120/150 grade sand paper.

5. Prior to final decoration, the entire plasterboard surface should be coated with Knauf Wallboard Primer to ensure an even suction and subsequent even paint texture, across the whole surface.

**Further information:**

- Jointing products

---

**Jointing partitions for speed of application**

Knauf jointing materials and tapes are of the highest quality to ensure the best possible finish with the minimum risk of cracking.

For the fastest possible application time on vertical wall joints where no movement is expected, Knauf Fibre Tape allows the filling and bedding processes to be completed in a single application. Always use tapered edge Knauf Plasterboards when specifying a tape and jointed finish.

**Application method**

1. Apply the self-adhesive Knauf Fibre Tape to the length of the plasterboard joint.

2. Apply a liberal coat of Knauf Joint Filler over the tape, ensuring that the material is pushed through the tape to completely fill the joint, to a width of approximately 175mm. Smooth Knauf Joint Filler and allow to set; this will take approximately two hours.

3. Once the Knauf Joint Filler has fully set, apply a coat of Knauf Joint Cement Easy Sand or Knauf Joint Cement Lite Easy Sand over the entire layer to a width of approximately 250mm and leave to dry; usually overnight.

4. Once dry, apply the final coat of Knauf Joint Cement Easy Sand or Knauf Joint Cement Lite Easy Sand to a width of approximately 300mm and leave to dry. Sand to a seamless finish using 120/150 grade sand paper.

5. Prior to final decoration, the entire plasterboard surface should be coated with Knauf Wallboard Primer to ensure an even suction and subsequent even paint texture, across the whole surface.

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**Jointing partitions for the strongest joint/ jointing ceilings**

Knauf Joint Tape is our recommended solution for both vertical and horizontal applications. The physical make up of Knauf Joint Tape inherently provides a greater resistance to cracking than fibre tapes and the application method ensures the correct filling of the joints, which is essential for strength.

In public areas and on ceilings, which always experience a degree of movement, Knauf Joint Tape should always be specified. If significant movement is expected, then the installation of a Knauf Movement Control Joint should be considered.

Always use tapered edge Knauf Plasterboards when specifying a tape and jointed finish. Knauf’s range of high-quality jointing materials will ensure the best possible finish can be achieved.

**Application method**

1. Fill the joint completely with either Knauf Joint Filler, Knauf Joint Cement Easy Sand, or Knauf Joint Cement Lite Easy Sand.

2. Bed the Knauf Joint Tape in the material and cover to a width of approximately 175mm. If using Knauf Joint Filler, allow it to set; this will take approximately two hours. If using a Knauf joint cement, allow it to dry; this will nominally take 24 hours.

3. Apply a coat of Knauf Joint Cement Easy Sand or Knauf Joint Cement Lite Easy Sand over the entire layer to a width of approximately 250mm and leave to dry, usually overnight.

4. Once dry, apply the final coat of Knauf Joint Cement Easy Sand or Knauf Joint Cement Lite Easy Sand to a width of approximately 300mm and leave to dry. Sand to a seamless finish using 120/150 grade sand paper.

5. Prior to final decoration, the entire plasterboard surface should be coated with Knauf Wallboard Primer to ensure an even suction, and subsequent even paint texture, across the whole surface.

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Generate specifications at www.knauf.co.uk

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**Performance Tables**

**Knauf and You**

Generate specifications at www.knauf.co.uk
**Taping and Jointing: internal corners**

1. Ensure the joint is completely filled.
2. Bedding Knauf Joint Tape.
3. Cover to a width of 50mm each side of the joint.
4. Apply Knauf Joint Cement Easy Sand finish coat to 75mm each side.
5. Sand to a seamless finish.
6. Applying Knauf Wallboard Primer.

**Jointing internal corners in partitions**

Internal corners are more protected than external corners and generally take fewer knocks. They also normally require less feathering out to achieve an acceptably flat visual surface.

Knauf Joint Tape has an indented centre line that makes it easy to fold for use with internal corners. Knauf’s range of joint cements are often preferred for internal corners for their easy workability.

**Application method**

1. Fill the joint completely with either Knauf Joint Filler, Knauf Joint Cement Easy Sand, or Knauf Joint Cement Lite Easy Sand.
2. Bend the Knauf Joint Tape along the centre line to suit the internal corner, then bed into the material and cover to a width of approximately 50mm each side of the joint. If using Knauf Joint Filler, allow it to set; this will take approximately two hours. If using a Knauf joint cement allow it to dry; this will nominally take 24 hours.
3. Apply a finish coat of Knauf Joint Cement Easy Sand or Knauf Joint Cement Lite Easy Sand over the entire length to a width of approximately 75mm each side of the joint and leave to dry; usually overnight.
4. Once dry, sand to a seamless finish using 120/150 grade sand paper.
5. Prior to final decoration, the entire plasterboard surface should be coated with Knauf Wallboard Primer to ensure an even suction, and subsequent even paint texture, across the whole surface.

**Taping and Jointing: external corners**

1. Applying Knauf Joint Filler to either side of the corner.
2. Ensure all holes are completely filled.
3. Applying the first layer of Knauf Joint Filler.
4. Apply second coat to 175mm each side of the corner.
5.6 Once fully set, apply a finish coat of Knauf Joint Cement Easy Sand or Knauf Joint Cement Lite Easy Sand feathered out to approximately 250mm each side of the corner and leave to dry. Sand to a seamless finish using 120/150 grade sand paper.
7. Prior to final decoration, the entire plasterboard surface should be coated with Knauf Wallboard Primer to ensure an even suction, and subsequent even paint texture, across the whole surface.

**Jointing external corners in partitions**

External corners are more likely to take knocks than internal corners and must be carefully jointed to ensure longevity. Knauf Corner Flex Tape is designed to protect the corner of the partition when used with Knauf Joint Filler and has been proven to resist damage more effectively than traditional metal corner joint sections.

**Application method**

1,2 Apply a liberal coating of Knauf Joint Filler to both sides of the corner along the length of the joint. Push the Knauf Corner Flex Tape onto the corner, over the Knauf Joint Filler, ensuring that all the holes in the Knauf Corner Flex Tape are completely filled.
3. Apply a first layer of Knauf Joint Filler over the edges of the Knauf Corner Flex Tape and feather out to approximately 175mm each side of the corner. Allow to set; this will take approximately two hours.
4. Apply a second layer of Knauf Joint Filler over the first layer, again feathering out to approximately 175mm each side of the corner. Allow to set; this will take approximately two hours.
5.6 Apply a finish coat of Knauf Joint Cement Easy Sand or Knauf Joint Cement Lite Easy Sand feathered out to approximately 250mm each side of the corner and leave to dry. Sand to a seamless finish using 120/150 grade sand paper.
7. Prior to final decoration, the entire plasterboard surface should be coated with Knauf Wallboard Primer to ensure an even suction, and subsequent even paint texture, across the whole surface.

Generate specifications at www.knauf.co.uk

214 Finishes
Knauf plasters are all suitable for traditional hand application, however many products in the range have been specifically developed for use with modern spray machinery. Spray application is the fastest and most efficient plastering method and with our powder and readymix spray plasters there’s no compromise in the quality of finish.

**Knauf Joint Cement**
Lite Easy Sand

Lite Easy Sand is a pre-mixed light joint sand designed for use with spray machinery. It has superior characteristics for hand or machine application.

**Knauf Joint Filler**
Knauf Joint Filler is a lightweight air-drying compound for bedding and finishing joints.

**Knauf Wallboard Primer**
Knauf Wallboard Primer is a surface treatment that equalises suction across joints prior to decoration. Applied with a brush or roller.

Knauf finishing products
Use Knauf jointing materials for effortless sanding and a seamless finish.
Before starting to spray, make sure all beads are cut and bedded in using Knauf MP75. Ensure that all wall areas are clean and dry, and add pre-treatment if required. Starting in the corner spray Knauf MP75 in overlapping bands at the desired thickness (usually 11–13mm and up to 20mm).

Use an aluminium feather edge to rule the plaster flat. Once flat, leave Knauf MP75 for approximately 75 minutes to allow for the initial set to take place. The initial set time may vary depending on the level of suction from the background.

After the initial set, use a small aluminium feather edge to apply a second rule and to remove any imperfections from the surface. Now leave the plaster for approximately 20 minutes more or use the ‘Touch Test’ – touch the plaster surface to check it does not stick to your fingers and resists finger print impressions.

Using a spatula, open the surface to allow air to enter the plaster to help with the drying process. This action is known as ‘ripping’ the surface and is easy to do – simply drag the spatula at 90° to the surface. Leave for another 20 minutes or use the ‘Touch Test’.

Using water and a sponge float, bring the fats of the plaster to the surface. Leave for a further 10–20 minutes or use the ‘Touch Test’. Using a quality steel trowel, push the plaster fats back into the plaster to give that all important hard and smooth finish.

Apply the first trowel. Leave for 10–20 minutes or use the ‘Touch Test’ before continuing with a second trowel exactly as per the first.

No water is required for backgrounds with a low suction; however, for backgrounds with a high suction flick water onto the surface with a paint brush.

When the surface has changed colour from off-white to dark grey, apply the final hard trowel, which gives Knauf MP75 its smooth and hard surface finish. It should take between 3 to 3 1/2 hours to achieve the perfect Knauf MP75 finish, dependent on the background and ambient temperature.

Knauf Readymix Plasters

Knauf Readymix Plasters are a rapid, cost-effective alternative to traditional plaster for finishing walls and ceilings. They are purpose-designed for machine application on fast-track building projects.

Knauf Deco
Knauf Deco is normally used as a 1mm top coat over Knauf Plano or as a finish coat directly onto smooth backgrounds.

Knauf Deco Plus
Knauf Deco Plus can be used on the same backgrounds as Knauf Deco but offers additional water resistance, making it ideal for use in areas of high humidity.

Knauf Plano
Knauf Plano is a filler and levelling compound for use over thin joint block systems, uneven in situ concrete and to fill cracks and holes on refurbishment projects.

Knauf Airless
Knauf Airless can be used in the same areas as Knauf Deco and Knauf Deco Plus but applied with an airless high-pressure piston pump machine.

Generate specifications at www.knauf.co.uk
Preparation 1
Ensure all joints, corners etc., have been filled and Knauf Joint Tape bedded in correctly with Knauf MPFinish. Secure angle beads to window reveals and external corners.

Spraying Knauf MPFinish 2
Spray apply the plaster in overlapping bands. Before you spray Knauf MPFinish it is important to ensure that the correct consistency has been achieved. You are aiming for a fairly wet mix.

Levelling Knauf MPFinish 3
Trowel the material flat as it is applied and leave to ‘pick up’. This is the initial setting stage and typically takes 45–50 minutes depending on the background. Once the plaster has picked up, trowel the surface. It is important that this trowel is a dry one – no water is required.

Trowelling 4
After about 30 minutes, depending on the background, apply the second trowel. Water can be applied to the surface at this stage if required. After 20–30 minutes the final trowel can be applied to achieve an exceptionally smooth finish.
System Specification

We know that small changes to the project specification can have a major effect on project efficiencies and the effectiveness of the finished building.

These pages highlight some of the simple changes that can achieve the greatest effects, from reducing wastage to reducing ongoing costs. They also introduce a free online tool to help you, and explain our health and safety policy and guidance.
The following pages highlight some key areas to consider when designing with Knauf systems.

Metal studs – speed, accuracy and economy

The specification of metal studs gives particular advantages over timber:

- Reduced waste
- Increased speed and ease of installation
- Higher accuracy, no movement or twisting due to shrinkage
- Reduced customer care issues

There is also a greatly reduced chance of use by other trades for non-associated tasks. In the case of internal partitions, the use of Knauf Acoustic ‘C’ Stud can obviate the need for an insulation quilt. Always ensure that Knauf metal studs are used within Knauf partition systems to ensure the validity of all performance ratings and the warranty.

Reducing wastage

Wastage of plasterboard on sites can be reduced by ensuring that the correct board length is chosen to suit the storey heights. Often, over-length boards are specified which then have to be cut-down, increasing working time and waste.

For further information on Gypsum Waste Management, please see our guide on page 282.

Knauf Resilient Bar for ceilings

The specification of Knauf Resilient Bar on ceiling systems brings three advantages:

- Sound reduction is increased.
- Bars can be spaced to remove the need for noggings on 12.5mm board, regardless of joist centres.
- Instances of cracking/nail popping are much reduced, as the system will be more tolerant of background movement.

Moisture resistant board such as Knauf Moisture Panel and Knauf Performance Plus, require a pre-treatment with Knauf Betokontakt where a Knauf skim plaster finish is desired.

If specifying a taped and jointed plasterboard finish, Knauf Wallboard Primer should be applied prior to the final finish (paint or wallpaper). The use of Knauf Wallboard Primer equalises suction across the surface and reduces the chance of the joints being seen through the finish. It also reduces moisture absorption and the risk of discoloration.

When checking the standard of jointing prior to completion, the use of lighting similar to that expected when occupied will provide the most accurate check, and subsequently reduce the possibility of customer care issues relating to the finished surface.

Fixing sequence

The British Standard Code of Practice for plasterboard partitions and dry linings (BS 8000: Part 8: 1994) recommends the following sequence of work:

1. Fix ceiling linings first
2. then partitions
3. followed by wall linings.

Whenever it is practical to do so, apply wall linings in sequence, working away from doors and windows and towards internal angles. As far as possible, locate paper bound board edges at salient corners.

Please note that where a Knauf Parge Coat is specified to a masonry separating wall, then the Knauf Parge Coat should be applied first, before the ceiling lining, and should cover all exposed masonry.

Recessed lights and other penetrations

When specifying recessed lighting and other penetrations through walls and ceilings, consider the effect on the system’s performance with regards to fire and acoustic ratings. Always ensure the manufacturer of the penetration has taken these into account.

Ensuring effective adhesion for ‘dot and dab’

When specifying a Direct Bonding plasterboard solution to fair faced in situ concrete, it is necessary to take into account the releasing agent used, as well as the low-key, low-suction surface. The concrete should be allowed to fully dry, and all traces of releasing agent removed with a mild detergent. Knauf Betokontakt should be used to provide a mechanical key, before the wall can be lined using a Knauf Direct Bonding system.

Achieving high finish levels

When deciding on which finish to apply to plasterboard, consideration should be given to the level of flatness that is required so that it suits the interior design and lighting conditions. For example, natural light at a shallow angle tends to highlight surface level differences, and features such as dado rails require a uniformly flat surface in order to be correctly mounted.

On a taped and jointed finish, the maximum increase of the crown of the joint allowed in BS 8212: 1995 is 3mm when measured using a 450mm straight edge. A smaller maximum increase can be specified, but will be more time-consuming to achieve. The use of Knauf tapered edge plasterboards is recommended when taping and jointing. If a uniformly flat surface is required then a Knauf skim plaster finish should be specified.

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Specification Considerations

For hospitals and non-residential buildings – service accommodation and partially boarded partitions: It is often necessary to accommodate a large number of services above ceiling level. On occasion, this means the plasterboard extends only to a height above suspended ceiling level leaving a gap for the services to run through. In these situations, no fire or acoustic performance can be guaranteed and it is necessary to consider the effect on the overall strength and, therefore, maximum design height of the partition.

The partition must also be capped off with plasterboard in order to prevent fibre migration, if insulation has been specified in the void.

Generally, it is recommended that no more than 25% of the total height is left unboarded without diagonal bracing being installed above a suspended ceiling. The bracing can be made from Knauf ‘C’ Stud or Knauf ‘U’ Channel and should be attached so that it forms a 45° brace between stud and soffit. These should be installed on every other stud and on alternate sides of the wall.

For schools – deflection heads to exposed soffits: Where suspended ceilings, either dry-wall or lay-in grid, are absent from the scheme design of a school, consider upgrading the deflection head detail to reduce the level of acoustic loss local to the head of the partition.

Music rooms/lecture theatres: Music rooms and lecture theatres require specific consideration from the project acoustician, and can differ in requirement depending on the type/nature of the project, and the client requirements. Both can require very specific detailing for sound reduction and sound absorption control. These requirements need to be considered early in the design stage. Knauf offer an extensive range of solutions for sound absorption, including Apertura ceiling and wall linings as well as high acoustic performance Knauf Isolator partitions. Please contact Knauf Technical Services for further details.

Partition Specifier

Save hours with our online tool that chooses the best partitions for your needs and then writes a full NBS format specification for you.

Use our Partition Specifier to:
- Meet performance criteria
- Produce instant NBS format specification documents for your project
- Create bespoke Technical Manuals for your project in seconds
- Generate a complete Procurement Schedule for your project
- Specify multiple partitions for your complete project
- Save and amend them at any time
- Use our Partition Specifier search to find matching standard or specialist partitions

Registration is free, simple and it only takes a minute. You can even try it out before you register to assure yourself that it will make design and specification a smoother, faster process for you.

www.knauf.co.uk
When to Upgrade

Upgrading to a higher specification Knauf product or system can bring major benefits to the client, and often reduces the project costs in both the long and short term.

To reduce ongoing fuel costs
While the energy markets remain volatile it is clear that the overall trend is for the cost of energy to increase into the future. Installing products that reduce ongoing running costs is simply common sense, providing those products allow for a reasonable pay-back time.

Knauf Brio dry floor screed has excellent thermal conductivity, making it the most efficient system to install over underfloor heating systems. Pipe temperatures can be reduced by as much as 6°C for the same room temperature, drastically reducing energy consumption.

Knauf Insulating Laminates combine the wall lining function of plasterboard with high-efficiency insulation material, reducing heating bills and providing an instant upgrade in refurbishments.

To reduce maintenance costs
In tough environments, such as schools and high traffic public areas, upgrading to one of our high robustness products will bring a major benefit in reduced maintenance costs, particularly important in long-term PFI/PPP contracts which run for 25 years or more.

Knauf Performance Plus and Knauf Impact Panel are ideal upgrades for high traffic public areas and other environments that are subject to knocks and bangs.

Knauf Aquapanel Interior cement board is a dedicated tile backer that will not degrade, no matter how wet it gets, protecting tiles and ensuring a damaged tile or grout only results in a quick localised repair.

To reduce overall project costs
Many of our innovative products are significantly faster to install and use fewer materials than traditional methods, more than offsetting the unit price of the product itself and resulting in a lower installed cost, as well as a higher performing system.

Knauf Brio dry screed boards and Knauf Readymix Plasters are much faster to install than traditional solutions and require a less skilled labour force. Less time is spent on-site, the project is completed faster and the overall package cost can be reduced.

Knauf High Performance Plasterboards are as easy to install as standard Knauf Wallboard and their increased performance can often reduce the number of layers of board required on each system. This reduces labour, time on-site and increases letting area – all more than offsetting the small increase in product cost.

To reduce environmental impact
Reducing the environmental impact of construction is now a key concern for a range of clients, including local government, and more legislation is being introduced to further encourage best practice. Our plasterboard and metal systems are A-Rated in the ‘Green Guide’ and we also offer a range of products that are even better for the environment.

Knauf Safeboard X-ray plasterboard removes the need for environmentally impactful lead in X-ray departments.

Knauf High Performance Plasterboards can often reduce the number of layers required to reach a given system performance, reducing the amount of construction material required, and waste created, for a project.

To create a better environment for the occupants
The purpose of a building is to provide an environment for its occupants. In the majority of cases the designers will want to provide the best environment possible within budget. Simple upgrades at the design stage can make a huge difference to the look, feel and effectiveness of the interiors without a huge difference to costs.

Knauf MPFinish and Readymix Plasters are quickly spray applied to provide the best finish in the business. Exceptional coverage and speed comparable to dry installation keeps the installed cost low while giving the client a beautiful, flat durable surface.

Knauf Apertura aesthetic perforated and patterned plasterboards can bring a room to life, allowing complete design freedom while effectively controlling reverberation within the room. With Knauf Apertura a designer can simply turn a plain room design into something really special.

Knauf Soundshield Plus forms the basis of our highest performing sound reducing partitions and ceilings and is a very cost-effective upgrade to standard Wallboard. Greater privacy for occupants reduces stress for occupants.
Health and Safety

Knauf take great care to ensure that our customers understand how to use our products in a safe, efficient and environmentally acceptable manner.

Our Project Specification team make safety a paramount consideration when recommending materials for use. In addition to providing full product safety information, our teams of technical instructors are available to work with customers on site, to ensure a clear understanding of our product applications.

Health and Safety Policy
Knauf is committed to ensuring the health, safety and welfare of our employees and other persons who may be affected by our activities, and to continually improve our safe working environment. We will meet our statutory duties and comply with non-statutory requirements to which we subscribe. To this end we accept an obligation as far as is reasonably achievable to:

- Assess the risks associated with our activities and implement controls to reduce them such that they are as low as reasonably practicable.
- Provide a safe place of work, with safe plant, equipment and appliances, incorporating safe methods/systems of working.
- Provide employees with appropriate and sufficient information, instruction, training and supervision as is necessary to enable the safe performance of work activities.
- Provide protective clothing and equipment in instances in which hazards cannot be realistically eliminated completely.
- Provide adequate facilities and arrangements to enable employees and their representatives to raise issues of health and safety for consultation.
- Provide appropriate first aid and emergency facilities.
- Provide details of the organisation and arrangements for Health and Safety in our Integrated Management System.
- Ensure that this policy is subject to annual review and is kept under review as and when required.

Health, safety and environmental guidance
Knauf is committed to supplying safe products and systems to our customers and accepts its responsibilities under Section 6 of the Health and Safety at Work Act 1974. There is a wide range of legislation and codes of practice which regulate the way our products are used.

The Health and Safety Executive (HSE) (www.hse.gov.uk) and the Environment Agency (EA) (www.environment-agency.gov.uk) have excellent websites, which offer extensive guidance from manual handling to waste recycling.

Particular pieces of legislation to which customers should refer include:

- The Health and Safety at Work Act 1974
- The Management of Health and Safety at Work Regulations 1999
- The Control of Substances Hazardous to Health Regulations 2002 and the EU Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) chemicals regulations are available from our website: www.knauf.co.uk/chemreg

Knauf plasterboards are not classified as hazardous under CHIP2 Regulations 1994.

Storage
Knauf Plasterboards are supplied on timber bearers. Packs should be lifted with a fork lift truck and stacked not more than one high on a flat surface to maintain stability. They should be stored in a clean, dry environment.

Workability
Knauf boards and metal components are not only easy to handle, they are extremely workable and can be easily cut and sawn with ordinary hand tools. The light weight of Knauf products, combined with their easy workability, ensures significant productivity gains.

Accuracy of guidance
Knauf has made every effort to ensure that information provided in this manual and other product literature is relevant at the time of printing. Users are advised to ensure that this guidance is up to date when planning to use our products and systems.

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Particular pieces of legislation to which customers should refer include:

- The Health and Safety at Work Act 1974
- The Construction (Design and Management) Regulations 2007
- The Management of Health and Safety at Work Regulations 1999
- The Control of Substances Hazardous to Health Regulations 2002
- Work at Height Regulations 2005

Risk assessments
Customers must ensure that they properly assess the hazards and introduce suitable controls before carrying out any work. A step by step guide to a risk assessment can be found on the HSE website.

When carrying out a risk assessment for any construction or related activity, customers should be mindful of:

- Manual handling – move boards and bags with care to avoid strain, using sufficient labour or mechanical aids where necessary.
- Personal protective equipment – overalls, gloves, head, eye and toe protection should be available and used where necessary.
- Power tools for cutting, grinding and sanding etc., – should only be used by trained and competent people.
- Safe access – boards are not load bearing and must not be used as platforms.
- Ventilation – should be adequate when mixing materials. Work materials to keep sanding and dust generation to a minimum.

Product safety information
Material Safety Data Sheets, which include all information required by the Control of Substances Hazardous to Health Regulations 2002 and the EU Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) chemicals regulations are available from our website: www.knauf.co.uk/chemreg

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Our Products

The Knauf name is synonymous with product quality and innovation.

Our ranges of lining boards, metal sections, accessories and finishes are designed, tested and warranted to work together perfectly, helping you build a better space.

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<td>Shaftwall</td>
<td>260</td>
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<tr>
<td>Metal Accessories</td>
<td>261</td>
</tr>
<tr>
<td>Specialist Systems</td>
<td>262</td>
</tr>
<tr>
<td>Aquapanel Interior</td>
<td>263</td>
</tr>
<tr>
<td>Aquapanel Exterior</td>
<td>265</td>
</tr>
<tr>
<td>Knauf Apertura</td>
<td>268</td>
</tr>
</tbody>
</table>

Our Products

Our ranges of lining boards, metal sections, accessories and finishes are designed, tested and warranted to work together perfectly, helping you build a better space.
Ultra-tough and ultra-smooth – Knauf Readymix Plasters dry fast and are easy to apply over masonry, concrete, plasterboard and other surfaces. Made from the highest quality ingredients, with impeccable environmental credentials, these products are simply better by ‘design’.
Readymix Plasters

Knauf Readymix Plasters are a highly efficient direct alternative to traditional plaster for finishing walls and ceilings. Being less prone to chips and cracks, they offer an excellent quality finish and are purpose designed for machine application. Supplied pre-mixed to the correct consistency for spray application, no direct water supply is required on site and wastage is less than 1%.

**Knauf Plano**

Used as a backing coat to fill or level holes or undulations on thin joint blockwork or insitu concrete, this product can be applied up to 3–4mm thick in one application. Knauf Plano is applied using a rotary screw worm pump machine.

<table>
<thead>
<tr>
<th>Bag Size</th>
<th>Material No.</th>
<th>Pallet Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>258174</td>
<td>40 1.00</td>
</tr>
</tbody>
</table>

Shelf life: 12 months. Estimating Guide: Up to 0.75m² per 25kg bag at 1.5mm thickness.

**Knauf Deco**

Used as a finishing coat for Knauf Plano or as a direct finish coat onto smooth backgrounds such as taped and jointed plasterboard, precast panels, concrete panels or refurbishment over previously decorated surfaces. This product is applied 1–2mm thick with a drying time of 24–48 hours prior to decorating. Knauf Deco is applied using a rotary screw worm pump machine.

<table>
<thead>
<tr>
<th>Bag Size</th>
<th>Material No.</th>
<th>Pallet Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kg</td>
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</tr>
<tr>
<td>25</td>
<td>258175</td>
<td>40 1.00</td>
</tr>
</tbody>
</table>

Shelf life: 12 months. Estimating Guide: Up to 1.5m² per 25kg bag at 1.5mm thickness.

**Knauf Deco Plus**

Used on the same backgrounds as Knauf Deco this product offers additional water resistance and fungicidal protection as well as greater impact resistance, making it ideal for use in areas of high humidity or in high traffic areas. Knauf Deco Plus is applied 1–2mm thick with a drying time of 24–48 hours prior to decorating. Knauf Deco Plus is applied using a rotary screw worm pump machine.

<table>
<thead>
<tr>
<th>Bag Size</th>
<th>Material No.</th>
<th>Pallet Details</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>25</td>
<td>258177</td>
<td>40 1.00</td>
</tr>
</tbody>
</table>

Shelf life: 12 months. Estimating Guide: Up to 1.5m² per 25kg bag at 1.5mm thickness.

**Knauf Airless**

Used in the same areas as Knauf Deco and Deco Plus this product is ideal for use over Knauf Plasterboard with a two coat application onto taped and jointed drylining systems. Knauf Airless is applied 1–2mm thick with a drying time of 24–48 hours prior to decorating. Knauf Airless is applied using an airless high-pressure piston pump machine.

<table>
<thead>
<tr>
<th>Bag Size</th>
<th>Material No.</th>
<th>Pallet Details</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
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<td>258178</td>
<td>40 1.00</td>
</tr>
</tbody>
</table>

Shelf life: 12 months. Estimating Guide: Up to 1.5m² per 25kg bag at 1.5mm thickness.

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Readymix Plasters

Knauf Easy Plaster

Knauf Easy Plaster is a ready-mixed lightweight patching plaster specially designed for small to large repairs to cracks in walls and ceilings. It will not shrink or crack and is ideal for filling holes up to 40mm deep with a two-coat application. The plaster can be painted or wallpapered once dry.

<table>
<thead>
<tr>
<th>Bag Size</th>
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</thead>
<tbody>
<tr>
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<td></td>
</tr>
<tr>
<td>25</td>
<td>258174</td>
<td>40 1.00</td>
</tr>
</tbody>
</table>

Shelf life: 9 months. Estimating Guide: Up to 0.75m² per 25kg bag at 2mm thickness.

---

**Plaster Accessories**

Our Plaster Accessories have been developed to perfectly complement our high-quality plaster range.

**Knauf High Suction Plaster Primer**

Knauf High Suction Plaster Primer is a polymer-based product designed to pretreat backgrounds with high suction. The primer can be applied with a brush, roller or by spraying.

<table>
<thead>
<tr>
<th>Bag Size</th>
<th>Material No.</th>
<th>Pallet Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kg</td>
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<tr>
<td>13</td>
<td>5587</td>
<td>24 0.36</td>
</tr>
</tbody>
</table>


**Knauf Betokontakt**

Knauf Betokontakt is a polymer-based product designed to provide a mechanical key to backgrounds which are smooth or have limited suction. Can be applied with a brush, roller or by spraying.

<table>
<thead>
<tr>
<th>Bag Size</th>
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</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>20</td>
<td>5454</td>
<td>24 0.48</td>
</tr>
</tbody>
</table>


---

Generate specifications at www.knauf.co.uk
Plasterboards

Knauf Performance Plus is the latest addition to our high-performance plasterboard range, combining unbeatable levels of impact, sound, fire and moisture resistance. Knauf Performance Plus is designed to meet the most challenging specification criteria, making it the only plasterboard you’ll need for demanding commercial environments.

Standard Boards

Knauf offer a full range of plasterboards to meet all drylining requirements, including high-performance boards for greater fire, moisture, vapour, sound and impact results. Use in conjunction with Knauf jointing compounds, plasters, fixings, plasterboard adhesive and metal systems.

**Knauf Wallboard**

Knauf Wallboard is plasterboard with an ivory paper face, ideally suited to receive a plaster finish or for direct decoration.

**Square Edge**

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>Material No.</th>
<th>Pallet Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness</td>
<td>Width</td>
<td>Length</td>
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<tr>
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<td>900</td>
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<td>2400</td>
</tr>
<tr>
<td>15.0</td>
<td>900</td>
<td>2400</td>
</tr>
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</table>

**Tapered Edge**

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>Material No.</th>
<th>Pallet Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness</td>
<td>Width</td>
<td>Length</td>
</tr>
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<td>1800</td>
</tr>
<tr>
<td>15.0</td>
<td>900</td>
<td>1800</td>
</tr>
<tr>
<td>12.5</td>
<td>1200</td>
<td>2400</td>
</tr>
<tr>
<td>15.0</td>
<td>1200</td>
<td>2400</td>
</tr>
</tbody>
</table>

**Knauf Baseboard**

Knauf Baseboard is a handy sized plasterboard suitable for use as a base for plastering.

**Square Edge**

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>Material No.</th>
<th>Pallet Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness</td>
<td>Width</td>
<td>Length</td>
</tr>
<tr>
<td>9.5</td>
<td>900</td>
<td>1220</td>
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</table>

Compliance: EN 520, Type A.
Board weight: 9.5mm = 6.2kg/m²; 12.5mm = 8.3kg/m²; 15.0mm = 10.2kg/m².

---

Generate specifications at www.knauf.co.uk

238 Plasterboards
High Performance Boards
Knauf High Performance Boards offer the convenience of plasterboard with significantly higher performance in key areas, from moisture performance in kitchens and bathrooms to fire and impact ratings in commercial projects. Knauf High Performance Boards are the solution for elements of fire, moisture, vapour, sound and impact performance.

Knauf Vapour Panel
Knauf Vapour Panel has a metallised polyester foil laminated on the grey paper face, creating an effective vapour barrier.

Square Edge
Dimensions (mm) Material No. Pallet Details
Thickness Width Length Boards m² Tonnage (approx.)
12.5 900 1800 243714 80 129.6 1.06
1200 2400 243706 72 207.4 1.49

Tapered Edge
Dimensions (mm) Material No. Pallet Details
Thickness Width Length Boards m² Tonnage (approx.)
12.5 1200 2400 243708 72 207.4 1.49
15.0 2400 243716 60 172.8 1.77

Compliance: EN 14190 and the wallboard only complies fully to EN 520 and is categorised as Type A.
Vapour Check Performance: 12.5mm Vapourshield 78.5 MNs/g. Terms Category: 4 Material Pricing Group: 07
Board weight: 12.5mm = 8.3kg/m² 15mm = 10.2kg/m²

Knauf Moisture Panel
Knauf Moisture Panel is a high-performance plasterboard for use in internal areas of high humidity and temporary external exposure.

Square Edge
Dimensions (mm) Material No. Pallet Details
Thickness Width Length Boards m² Tonnage (approx.)
12.5 1200 2400 292680 60 172.8 1.64

Tapered Edge
Dimensions (mm) Material No. Pallet Details
Thickness Width Length Boards m² Tonnage (approx.)
12.5 1200 2400 222210 60 172.8 1.64
15.0 2400 243822 60 194.4 1.85
3000 400134 48 172.8 1.76

Compliance: EN 520, Types A and H2. Terms Category: 5 Material Pricing Group: 12
Board weight: 12.5mm = 9.5kg/m² 15mm = 10.2kg/m²

Knauf Sound Panel
Knauf Sound Panel offers enhanced levels of sound performance and a greater density, making it ideal for residential applications where a minimum of 10kg/m² is required.

Tapered Edge
Dimensions (mm) Material No. Pallet Details
Thickness Width Length Boards m² Tonnage (approx.)
12.5 1200 2400 406632 32 92.16 0.94

Knauf Fire Panel
Knauf Fire Panel offers superior fire protection.

Square Edge
Dimensions (mm) Material No. Pallet Details
Thickness Width Length Boards m² Tonnage (approx.)
12.5 900 1800 243496 80 129.6 1.30
1200 2400 243481 60 172.8 1.73

Tapered Edge
Dimensions (mm) Material No. Pallet Details
Thickness Width Length Boards m² Tonnage (approx.)
12.5 1200 2400 243498 60 194.4 1.94
15.0 2400 243507 48 155.5 1.87
3000 403513 42 131.2 1.82

Compliance: EN 520, Types A and F. Terms Category: 7 Material Pricing Group: 15
Board weight: 12.5mm = 10kg/m² 15mm = 12kg/m²

Knauf Impact Panel
Knauf Impact Panel is an impact-resistant plasterboard offering toughness, durability and excellent load carrying capacity.

Tapered Edge
Dimensions (mm) Material No. Pallet Details
Thickness Width Length Boards m² Tonnage (approx.)
12.5 1200 3000 243587 42 151.2 1.95

Compliance: EN 520, Types A, D, F and R. Terms Category: 8 Material Pricing Group: 10
Board weight: 15mm = 12.8kg/m²

Generate specifications at www.knauf.co.uk
High Performance Boards

Knauf Soundshield Plus
Knauf Soundshield Plus is the ideal plasterboard where sound reduction is of particular importance. Its high mass and tuned core give enhanced acoustic performance and severe duty impact rating when used on Knauf systems.

**Tapered Edge**

<table>
<thead>
<tr>
<th>Thickness (mm)</th>
<th>Width (mm)</th>
<th>Length (mm)</th>
<th>Material No.</th>
<th>Pallet Details</th>
<th>m²</th>
<th>Tonne (approx.)</th>
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<tr>
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<td>3000</td>
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<td>292678</td>
<td>36</td>
<td>129.6</td>
<td>1.66</td>
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</tbody>
</table>

Compliance: EN 520, Types A and D.
Board weight: 12.5mm = 11.5kg/m², 15mm = 12.8kg/m²

**Knauf Performance Plus**
Knauf Performance Plus, our highest specification plasterboard, has a high density core with added performance-enhancing ingredients. The result is a board with extremely high levels of sound, moisture, fire and impact resistance, ideally suited to schools, hospitals and other large commercial projects.

**Tapered Edge**

<table>
<thead>
<tr>
<th>Thickness (mm)</th>
<th>Width (mm)</th>
<th>Length (mm)</th>
<th>Material No.</th>
<th>Pallet Details</th>
<th>m²</th>
<th>Tonne (approx.)</th>
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</thead>
<tbody>
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<td>12.5</td>
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<td>172.8</td>
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<tr>
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<td>400185</td>
<td>48</td>
<td>172.8</td>
<td>1.98</td>
</tr>
<tr>
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<td>2400</td>
<td>400189</td>
<td>48</td>
<td>138.2</td>
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<td>36</td>
<td>129.6</td>
<td>1.66</td>
</tr>
</tbody>
</table>

Compliance: EN 520, Type A, B, D, F, H1, I, R and C.
Board weight: 12.5mm = 11.3kg/m², 15mm = 12.8kg/m²

**Knauf Plank**
Knauf Plank is a 19mm thick plasterboard for use as a key component in many partition and floor systems, where it acts as an acoustic mass layer.

**Square Edge**

<table>
<thead>
<tr>
<th>Thickness (mm)</th>
<th>Width (mm)</th>
<th>Length (mm)</th>
<th>Material No.</th>
<th>Pallet Details</th>
<th>m²</th>
<th>Tonne (approx.)</th>
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</thead>
<tbody>
<tr>
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<td>600</td>
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<td>115.2</td>
<td>1.61</td>
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</table>

**Tapered Edge**

<table>
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<tr>
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<th>Length (mm)</th>
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<th>Pallet Details</th>
<th>m²</th>
<th>Tonne (approx.)</th>
</tr>
</thead>
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<tr>
<td>19.0</td>
<td>600</td>
<td>2400</td>
<td>81063</td>
<td>32</td>
<td>57.6</td>
<td>0.81</td>
</tr>
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</table>

Compliance: EN 520, Types A, B, D, F, H1, I, R and C.
Board weight: 19mm = 16.3kg/m²

**Knauf Core Board**
Knauf Core Board is designed to be used in conjunction with the Knauf Shaftwall systems. It has both fire and moisture resistant qualities.

**Square Edge**

<table>
<thead>
<tr>
<th>Thickness (mm)</th>
<th>Width (mm)</th>
<th>Length (mm)</th>
<th>Material No.</th>
<th>Pallet Details</th>
<th>m²</th>
<th>Tonne (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>19.0</td>
<td>600</td>
<td>3000</td>
<td>81062</td>
<td>32</td>
<td>57.6</td>
<td>0.81</td>
</tr>
</tbody>
</table>

Compliance: EN 520, Types A, B, D, F, H1, I, R and C.
Board weight: 15mm = 12.5kg/m²

**Knauf Safeboard**
Knauf Safeboard is an X-ray resistant plasterboard with barium sulphate in its core. It effectively and significantly reduces the amount of lead needed within X-ray shielding partitions, in many cases removing the need for lead altogether.

For details on specifying and ordering Knauf Safeboard, please contact Knauf Customer Services.
Insulating Laminates

Knauf Insulating Laminates provide an efficient way to achieve instant energy savings, while maximising room space. All Knauf Insulating Laminates offer simple solutions to meet the requirements of the Building Regulations for walls as well as roof-in-roof situations for new build and refurbishment projects. Knauf Insulating Laminates reduce CO2 emissions as well as reduce energy expenditure offering short payback periods. Knauf Insulating Laminates are supplied with a tapered edge for direct decoration or plaster finish and can be installed using either Knauf Plasterboard Adhesive or mechanical fixings.

Knauf Thermal Laminate

Knauf Thermal Laminate offers good levels of thermal insulation by combining 9.5mm Knauf Wallboard with high-quality polystyrene which is both CFC and HCFC-free. This product is ideal for use in both refurbishment and new build.

Tapered Edge

<table>
<thead>
<tr>
<th>Thickness</th>
<th>Width (mm)</th>
<th>Length (mm)</th>
<th>Material No.</th>
<th>Boards</th>
<th>m³</th>
<th>Tonnes (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
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<td>46</td>
<td>132.5</td>
<td>0.87</td>
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<td>92.2</td>
<td>0.64</td>
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<td>2400</td>
<td>243598</td>
<td>25</td>
<td>72.0</td>
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</tr>
</tbody>
</table>

Knauf Thermal Laminate Vapour Check

Knauf Thermal Laminate Vapour Check offers good levels of thermal insulation by combining 9.5mm Knauf Vapourshield plasterboard with high-quality polystyrene which is both CFC and HCFC-free. This product is ideal for use in both refurbishment and new build. An effective vapour check layer is incorporated within the board.

Tapered Edge

<table>
<thead>
<tr>
<th>Thickness</th>
<th>Width (mm)</th>
<th>Length (mm)</th>
<th>Material No.</th>
<th>Boards</th>
<th>m³</th>
<th>Tonnes (approx.)</th>
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<tbody>
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<tr>
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<td>2400</td>
<td>243602</td>
<td>25</td>
<td>72.0</td>
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</tr>
</tbody>
</table>

Knauf XPS Laminate Plus

CFC and HCFC-free extruded polystyrene bonded to 9.5mm Knauf Wallboard offers an enhanced thermal performance at a reduced thickness with the additional advantage of providing a good vapour resistance. Ideal for use in refurbishment, new build and warm roof situations where an enhanced level of thermal insulation is required.

Tapered Edge

<table>
<thead>
<tr>
<th>Thickness</th>
<th>Width (mm)</th>
<th>Length (mm)</th>
<th>Material No.</th>
<th>Boards</th>
<th>m³</th>
<th>Tonnes (approx.)</th>
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<tr>
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<td>40</td>
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<td>2400</td>
<td>268265</td>
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<td>2400</td>
<td>268267</td>
<td>16</td>
<td>46.1</td>
<td>0.36</td>
</tr>
</tbody>
</table>

Knauf PIR Laminate

PIR insulation is CFC and HCFC-free; when bonded to 9.5mm Knauf Wallboard it offers the highest thermal performance, reducing the thickness required. This cost-effective solution is ideal for use in refurbishment, new build and non-combustible situations where an enhanced level of thermal insulation is required.

Tapered Edge

<table>
<thead>
<tr>
<th>Thickness</th>
<th>Width (mm)</th>
<th>Length (mm)</th>
<th>Material No.</th>
<th>Boards</th>
<th>m³</th>
<th>Tonnes (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
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<td>2400</td>
<td>243593</td>
<td>22</td>
<td>63.4</td>
<td>0.47</td>
</tr>
<tr>
<td>65</td>
<td>1200</td>
<td>2400</td>
<td>243594</td>
<td>17</td>
<td>49.0</td>
<td>0.38</td>
</tr>
<tr>
<td>75</td>
<td>1200</td>
<td>2400</td>
<td>243595</td>
<td>14</td>
<td>40.3</td>
<td>0.33</td>
</tr>
</tbody>
</table>
Drywall Accessories

Well-made and expertly crafted, our fully warranted accessories guarantee consistent quality across the Knauf range. Comprising fillers, cements, tapes, beads, fixings and more, they’re all designed with compatibility, endurance and optimum performance in mind.

Jointing Products

Our range of Jointing Products has been developed to give you the best possible results when bedding tapes and beads, and finishing joints. Whether for hand or machine application, Knauf Jointing Products give you the smoothest finish with the minimum effort.

Knauf Joint Filler

A fast setting gypsum compound for bedding joints by hand application.

<table>
<thead>
<tr>
<th>Bag Size</th>
<th>Material No.</th>
<th>Pallet Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kg</td>
<td>258179</td>
<td>42</td>
</tr>
</tbody>
</table>

Shelf life: 4 months. Compliance: EN 13963, Type 1B. Estimating Guide: To bed and fill to shoulders. 110m² per bag. Available in part pallet quantities.

Knauf Multifill

A fast setting multi-purpose gypsum based compound for bedding tapes and beads, and for finishing. For hand application.

<table>
<thead>
<tr>
<th>Bag Size</th>
<th>Material No.</th>
<th>Pallet Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kg</td>
<td>258186</td>
<td>90</td>
</tr>
</tbody>
</table>


Knauf Joint Cement Easy Sand

A lightweight air-drying compound for bedding tapes and finishing joints by hand or machine application. Knauf Joint Cement Easy Sand produces an exceptional finish with minimal sanding effort.

<table>
<thead>
<tr>
<th>Bag Size</th>
<th>Material No.</th>
<th>Pallet Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kg</td>
<td>258185</td>
<td>42</td>
</tr>
</tbody>
</table>


Knauf Joint Cement Lite Easy Sand

A pre-mixed lightweight air-drying compound for bedding tapes and finishing joints with superior sanding characteristics. For hand or machine application.

<table>
<thead>
<tr>
<th>Tub Size</th>
<th>Material No.</th>
<th>Pallet Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Litres</td>
<td>268274</td>
<td>55</td>
</tr>
<tr>
<td>17</td>
<td>258184</td>
<td>33</td>
</tr>
</tbody>
</table>


Knauf Safeboard™ Joint Filler

A joint filler for use with Knauf Safeboard X-ray shielding plasterboard.

<table>
<thead>
<tr>
<th>Tub Size</th>
<th>Material No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kg</td>
<td>133092</td>
</tr>
</tbody>
</table>

For details on ordering Knauf Safeboard Joint Filler, please contact Knauf Customer Services.
Jointing Products/Accessories

**Knauf Joint Tape**
White tape for reinforcing joints by hand or machine application. Knauf Joint Tape is recommended on ceilings and to create the strongest joints. A centreline facilitates the jointing of internal corners.

<table>
<thead>
<tr>
<th>Roll Size</th>
<th>Material No.</th>
<th>Carton Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length (m)</td>
<td>Width (mm)</td>
<td>Rolls</td>
</tr>
<tr>
<td>150m</td>
<td>51mm</td>
<td>258337</td>
</tr>
</tbody>
</table>

**Knauf Fibre Tape**
Multipurpose self-adhesive tape for reinforcing joints and patch repairs to plasterboard.

<table>
<thead>
<tr>
<th>Roll Size</th>
<th>Material No.</th>
<th>Carton Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length (m)</td>
<td>Width (mm)</td>
<td>Rolls</td>
</tr>
<tr>
<td>153m</td>
<td>50mm</td>
<td>258338</td>
</tr>
</tbody>
</table>

**Knauf Corner Flex Tape**
Fibre composite tape for providing protection to external corners of drylined partitions.

<table>
<thead>
<tr>
<th>Roll Size</th>
<th>Material No.</th>
<th>Carton Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length (m)</td>
<td>Width (mm)</td>
<td>Rolls</td>
</tr>
<tr>
<td>30m</td>
<td>62mm</td>
<td>258336</td>
</tr>
</tbody>
</table>

**Knauf Angle Bead**
Galvanised steel corner protection for external corners of drywall partitions.

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size Length</td>
<td>Lengths/Pack</td>
<td>Kg (approx.)</td>
</tr>
<tr>
<td>25 x 25</td>
<td>2400</td>
<td>30</td>
</tr>
<tr>
<td>25 x 25</td>
<td>3000</td>
<td>258333</td>
</tr>
</tbody>
</table>

**Knauf Edge Bead**
Galvanised steel edge trim for drywall applications used to protect exposed plasterboard edges while forming a defined edge to the plasterboard.

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size Length</td>
<td>Lengths/Pack</td>
<td>Kg (approx.)</td>
</tr>
<tr>
<td>12.5</td>
<td>3000</td>
<td>258304</td>
</tr>
<tr>
<td>15</td>
<td>3000</td>
<td>258305</td>
</tr>
</tbody>
</table>

**Knauf Movement Control Joint**
Aluminium section used to bridge gaps left for expansion and contraction in drywall partitions. Please note it is not suitable as a central joint for internal plastering.

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size Length</td>
<td>Lengths/Pack</td>
<td>Kg (approx.)</td>
</tr>
<tr>
<td>60</td>
<td>5048</td>
<td>258335</td>
</tr>
</tbody>
</table>

**Accessories**

**Knauf Resilient Isolation Strip**
A purpose-made self-adhesive strip which isolates the floor deck from the top of the timber joist in acoustic floor systems allowing improved acoustic performance.

<table>
<thead>
<tr>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness Size</td>
<td>Length</td>
</tr>
<tr>
<td>600</td>
<td>258281</td>
</tr>
</tbody>
</table>

Note: Check compatibility with pipe manufacturer prior to use. Shelf life: 18 months. Compliance: Tested to BS EN 1366-3:2004 in accordance with BS EN 1366-1 and has been assessed fully in accordance with BS 476: Part 20.

**Knauf Intumescent and Acoustic Mastic Foil**
Knauf Intumescent and Acoustic Mastic is a rapid curing, water-based acrylic expanding fire resistant mastic. It can be used for sealing individual or grouped services or for linear joint sealing.

<table>
<thead>
<tr>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foil Size</td>
<td>Foils per Pack</td>
</tr>
<tr>
<td>600</td>
<td>258281</td>
</tr>
</tbody>
</table>

Note: Check compatibility with pipe manufacturer prior to use. Shelf life: 18 months. Compliance: Tested to BS EN 1366-3:2004 in accordance with BS EN 1366-1 and has been assessed fully in accordance with BS 476: Part 20.

**Knauf Foil Applicator**
Gun applicator for applying Knauf Sealant, Knauf Intumescent and Acoustic Mastic foils.

<table>
<thead>
<tr>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foil Size</td>
<td>Foils per Pack</td>
</tr>
<tr>
<td>600</td>
<td>258341</td>
</tr>
</tbody>
</table>

**Knauf Intumescent and Acoustic Mastic**
Knauf Intumescent and Acoustic Mastic is a rapid curing, water-based acrylic expanding fire resistant mastic. It can be used for sealing individual or grouped services or for linear joint sealing.

<table>
<thead>
<tr>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cartridge Size</td>
<td>Cartridges per Pack</td>
</tr>
<tr>
<td>310</td>
<td>258280</td>
</tr>
</tbody>
</table>

Note: Check compatibility with pipe manufacturer prior to use. Shelf life: 18 months. Compliance: Tested to BS EN 1366-3:2004 in accordance with BS EN 1366-1 and has been assessed fully in accordance with BS 476: Part 20.

**Knauf Sealant**
An all-purpose water-based acrylic gun applied acoustic sealant for use with Knauf systems.

<table>
<thead>
<tr>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cartridge Size</td>
<td>Cartridges per Pack</td>
</tr>
<tr>
<td>900</td>
<td>258301</td>
</tr>
</tbody>
</table>

Shelf life: 12 months. Estimating Guide: For a 10mm bead, 30-40 linear metres per cartridge.

**Knauf Sealant Gun**
Gun applicator with up to 1 litre capacity for Knauf Sealant.

<table>
<thead>
<tr>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cartridge Size</td>
<td>Cartridges per Pack</td>
</tr>
<tr>
<td>0.90-1.00</td>
<td>258340</td>
</tr>
</tbody>
</table>
**Accessories**

**Knauf Putty Pads**
Sheets of intumescent, mouldable putty designed for use inside and outside plastic electrical sockets. Will maintain a fire rating of up to 2 hours and an acoustic rating of up to 60dB(Rw).

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>Material No.</th>
<th>Packs per Box</th>
<th>Kg (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>170 x 170</td>
<td>268269</td>
<td>20</td>
<td>2.2</td>
</tr>
<tr>
<td>230 x 170</td>
<td>268271</td>
<td>20</td>
<td>4.8</td>
</tr>
</tbody>
</table>

**Knauf Gypsum Parge Coat**
A gypsum-based compound specifically designed to seal masonry walls prior to direct bonding with Knauf Plasterboards offering improved acoustic and airtightness performance. To be applied in a continuous layer to the entire wall surface, ensuring all gaps are filled, especially at junctions and corners. Sets in 1.5 to 2 hours. Approved for use with Robust Details E-WM-3 and E-WM-5.

<table>
<thead>
<tr>
<th>Bag Size</th>
<th>Material No.</th>
<th>Pallet Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kg</td>
<td>Bags</td>
<td>Tonnnes (approx.)</td>
</tr>
<tr>
<td>25</td>
<td>258189</td>
<td>60</td>
</tr>
</tbody>
</table>

**Knauf Cove Mitres**
Reusable plastic tool to achieve accurate mitred corners.

<table>
<thead>
<tr>
<th>Width (mm)</th>
<th>Material No.</th>
<th>Pallet Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>90</td>
<td>258283</td>
<td>20</td>
</tr>
<tr>
<td>127</td>
<td>258284</td>
<td>20</td>
</tr>
</tbody>
</table>

**Knauf Cove Adhesive**
Gypsum-based adhesive to affix Knauf Cove. One bag is sufficient to fix 18–24 linear metres of cove.

<table>
<thead>
<tr>
<th>Bag Size</th>
<th>Material No.</th>
<th>Pallet Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kg</td>
<td>Bags</td>
<td>Tonnnes (approx.)</td>
</tr>
<tr>
<td>3</td>
<td>258171</td>
<td>180</td>
</tr>
</tbody>
</table>

**Knauf Cove**
Decorative plaster moulding with a paper face for direct application of paint finishes.

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>Material No.</th>
<th>Packs per Pallet</th>
<th>Lengths per Pack</th>
<th>Tonnnes (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>127</td>
<td>258393</td>
<td>40</td>
<td>5</td>
<td>0.56</td>
</tr>
<tr>
<td>360</td>
<td>258399</td>
<td>50</td>
<td>5</td>
<td>0.84</td>
</tr>
<tr>
<td>90</td>
<td>258397</td>
<td>39</td>
<td>7</td>
<td>1.04</td>
</tr>
</tbody>
</table>

Orders must be placed for whole pallets.

**Knauf Cove Adhesive**
A multi-purpose gypsum-based adhesive for use with Knauf Metal Furring Channel and for direct bonding of Knauf Plasterboards and insulating laminates. Should not be used for moisture resistant or vapour check boards. For extremes in background suction, refer to Knauf High Suction Plaster Primer and Knauf Betokontakt.

**Knauf High Suction Plaster Primer**
A surface treatment that equalizes suction across joints prior to decoration. Applied with a brush or roller.

<table>
<thead>
<tr>
<th>Tub Size</th>
<th>Material No.</th>
<th>Pallet Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Litres</td>
<td>Tubs</td>
<td>Tonnnes (approx.)</td>
</tr>
<tr>
<td>12</td>
<td>258279</td>
<td>36</td>
</tr>
</tbody>
</table>

**Knauf Cove**
Sheets of intumescent, mouldable putty designed for use inside and outside plastic electrical sockets. Will maintain a fire rating of up to 2 hours and an acoustic rating of up to 60dB(Rw).
### Fixings

#### Knauf Screws – Self Tapping
Self-tapping black phosphate screws with countersunk PH2 heads. For fixing plasterboards to metal and timber framing. Ideal for use with light gauge metal up to 0.7mm thick. Each box includes a PH2 bit.

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>Diameter</td>
<td>Items per Pack</td>
</tr>
<tr>
<td>25</td>
<td>3.5</td>
<td>258309</td>
</tr>
<tr>
<td>32</td>
<td>3.5</td>
<td>258310</td>
</tr>
<tr>
<td>38</td>
<td>3.5</td>
<td>258311</td>
</tr>
<tr>
<td>42</td>
<td>3.5</td>
<td>258312</td>
</tr>
<tr>
<td>50</td>
<td>3.9</td>
<td>258313</td>
</tr>
<tr>
<td>60</td>
<td>4.2</td>
<td>258314</td>
</tr>
<tr>
<td>75</td>
<td>4.2</td>
<td>258315</td>
</tr>
</tbody>
</table>

#### Knauf Collated Screws – Self Tapping
Strips of 50 collated black phosphate, self-tapping screws with countersunk PH2 heads. For fixing plasterboards to metal and timber framing. Ideal for use with light gauge metal up to 0.7mm thick. Each box comes with a PH2 bit.

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>Diameter</td>
<td>Items per Pack</td>
</tr>
<tr>
<td>25</td>
<td>3.5</td>
<td>258306</td>
</tr>
<tr>
<td>35</td>
<td>3.5</td>
<td>258307</td>
</tr>
<tr>
<td>45</td>
<td>3.5</td>
<td>258308</td>
</tr>
</tbody>
</table>

#### Knauf Screws – Jackpoint Self Drilling
Self-drilling black phosphate screws with countersunk PH2 head. For fixing plasterboard to metal frame 0.7mm to 1.2mm thick. Each box comes with a PH2 bit.

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>Diameter</td>
<td>Items per Pack</td>
</tr>
<tr>
<td>25</td>
<td>3.5</td>
<td>258318</td>
</tr>
<tr>
<td>35</td>
<td>3.5</td>
<td>258319</td>
</tr>
<tr>
<td>42</td>
<td>3.5</td>
<td>258320</td>
</tr>
<tr>
<td>55</td>
<td>3.5</td>
<td>258321</td>
</tr>
</tbody>
</table>

#### Knauf Wood Screws
Self-tapping black phosphate coarse threaded wood screws with countersunk PH2 head. For fixing plasterboard to timber frame. Each box comes with a PH2 bit.

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>Diameter</td>
<td>Items per Pack</td>
</tr>
<tr>
<td>38</td>
<td>3.5</td>
<td>258316</td>
</tr>
<tr>
<td>42</td>
<td>3.5</td>
<td>258317</td>
</tr>
</tbody>
</table>

#### Knauf Wafer Head Screws – Self Tapping
Self-tapping black phosphate low profile screws with PH2 head. For metal-to-metal fixing. Ideal for use with light gauge metal up to 0.7mm thick. Each box comes with a PH2 bit.

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>Diameter</td>
<td>Items per Pack</td>
</tr>
<tr>
<td>14</td>
<td>4.2</td>
<td>258323</td>
</tr>
</tbody>
</table>

#### Knauf Wafer Head Screws – Jackpoint Self Drilling
Zinc coated self-drilling low profile screws with PH2 head. For metal to metal fixing. Ideal for use with heavy gauge metal above 0.7mm thick. Each box comes with a PH2 bit.

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>Diameter</td>
<td>Items per Pack</td>
</tr>
<tr>
<td>14</td>
<td>4.2</td>
<td>258322</td>
</tr>
</tbody>
</table>

#### Knauf Nailable Plugs
Knauf Nailable plugs are second fix hammer-in screws suitable for fixing Knauf Insulating Laminates and Knauf ‘U’ Channel, timber studs, and bearers to masonry. Each box comes with a PH2 bit.

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>Diameter</td>
<td>Items per Pack</td>
</tr>
<tr>
<td>35</td>
<td>6</td>
<td>258326</td>
</tr>
<tr>
<td>80</td>
<td>8</td>
<td>258328</td>
</tr>
<tr>
<td>100</td>
<td>8</td>
<td>258327</td>
</tr>
</tbody>
</table>

#### Knauf Performance Plus Screws
Knauf Performance Plus Screws are designed for single and double layer Knauf Performance Plus partition systems. The Knauf Performance Plus Screws provide a solid fix into plasterboards with a dense consistency.

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>Diameter</td>
<td>Items per Pack</td>
</tr>
<tr>
<td>25</td>
<td>4.2</td>
<td>404662</td>
</tr>
<tr>
<td>35</td>
<td>4.2</td>
<td>404663</td>
</tr>
<tr>
<td>45</td>
<td>4.2</td>
<td>404664</td>
</tr>
</tbody>
</table>
Combining maximum performance with minimum fuss, Knauf Performer partitions are easy to install in any modern interior. Like all Knauf partitions they’re manufactured using high-quality components and are available in a wide range of sizes.

**Knauf ‘C’ Studs**

Galvanised lightweight steel section for use in non-load bearing Knauf partition systems.

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gauge</td>
<td>Size/Webb</td>
<td>Length</td>
</tr>
<tr>
<td>0.55</td>
<td>50</td>
<td>2400</td>
</tr>
<tr>
<td></td>
<td>2500</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>2700</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>3000</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>3600</td>
<td>35</td>
</tr>
<tr>
<td>0.60</td>
<td>50</td>
<td>3000</td>
</tr>
<tr>
<td></td>
<td>3600</td>
<td>35</td>
</tr>
<tr>
<td>0.70</td>
<td>70</td>
<td>2400</td>
</tr>
<tr>
<td></td>
<td>2700</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>3000</td>
<td>35</td>
</tr>
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<td></td>
<td>3600</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>4200</td>
<td>35</td>
</tr>
<tr>
<td>0.92</td>
<td>3600</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>4200</td>
<td>35</td>
</tr>
<tr>
<td>1.46</td>
<td>2700</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>3000</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>3600</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>4200</td>
<td>35</td>
</tr>
<tr>
<td>0.70</td>
<td>70</td>
<td>3600</td>
</tr>
<tr>
<td></td>
<td>4200</td>
<td>35</td>
</tr>
<tr>
<td>0.92</td>
<td>3600</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>4200</td>
<td>35</td>
</tr>
<tr>
<td>1.46</td>
<td>4200</td>
<td>35</td>
</tr>
</tbody>
</table>

Estimating Guide: 1.67 linear metres per m² partition (based on 600mm centres). Compliance: EN 14195.

**Knauf Acoustic ‘C’ Studs**

Galvanised lightweight steel section for use in non-load bearing Knauf partition systems, specifically designed to improve the acoustic performance of the resulting partition.

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gauge</td>
<td>Size/Webb</td>
<td>Length</td>
</tr>
<tr>
<td>0.60</td>
<td>50</td>
<td>2400</td>
</tr>
<tr>
<td></td>
<td>2700</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>3000</td>
<td>50</td>
</tr>
<tr>
<td>0.70</td>
<td>70</td>
<td>2400</td>
</tr>
<tr>
<td></td>
<td>3000</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>3600</td>
<td>50</td>
</tr>
<tr>
<td>0.92</td>
<td>92</td>
<td>3600</td>
</tr>
</tbody>
</table>

Estimating Guide: 1.67 linear metres per m² partition (based on 600mm centres). Compliance: EN 14195.
### ‘U’ Channels

High-quality Knauf ‘U’ Channels are available in a number of widths to suit our range of system solutions.

#### Knauf ‘U’ Channel

Galvanized steel section for use as the standard head and floor track for Knauf partitions and wall linings.

<table>
<thead>
<tr>
<th>Gauge</th>
<th>Size/Webb</th>
<th>Length</th>
<th>Flange</th>
<th>Material No.</th>
<th>Length/Pack</th>
<th>Kg (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.55</td>
<td>52</td>
<td>3000</td>
<td>25</td>
<td>243994</td>
<td>10</td>
<td>13</td>
</tr>
<tr>
<td>62</td>
<td>3000</td>
<td>25</td>
<td>243995</td>
<td>10</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>72</td>
<td>3000</td>
<td>25</td>
<td>243996</td>
<td>10</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>94</td>
<td>3000</td>
<td>25</td>
<td>243997</td>
<td>10</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>148</td>
<td>3000</td>
<td>25</td>
<td>243993</td>
<td>10</td>
<td>25</td>
<td></td>
</tr>
</tbody>
</table>


#### Knauf Deep Flange ‘U’ Channel – 50mm Deep Flange

Galvanized steel section for use as an optional head track where increased deflection is expected for use in Knauf partition and Knauf ShaftWall systems.

<table>
<thead>
<tr>
<th>Gauge</th>
<th>Size/Webb</th>
<th>Length</th>
<th>Flange</th>
<th>Material No.</th>
<th>Length/Pack</th>
<th>Kg (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.60</td>
<td>52</td>
<td>3000</td>
<td>50</td>
<td>243999</td>
<td>10</td>
<td>25</td>
</tr>
<tr>
<td>72</td>
<td>3000</td>
<td>50</td>
<td>255951</td>
<td>10</td>
<td>27</td>
<td></td>
</tr>
</tbody>
</table>


#### Knauf Deep Flange ‘U’ Channel – 70mm Deep Flange

Galvanized steel section for use as an optional head track where increased deflection is expected for use in Knauf partition and Knauf ShaftWall systems.

<table>
<thead>
<tr>
<th>Gauge</th>
<th>Size/Webb</th>
<th>Length</th>
<th>Flange</th>
<th>Material No.</th>
<th>Length/Pack</th>
<th>Kg (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.70</td>
<td>52</td>
<td>3000</td>
<td>70</td>
<td>243995</td>
<td>10</td>
<td>33</td>
</tr>
<tr>
<td>72</td>
<td>3000</td>
<td>70</td>
<td>255953</td>
<td>10</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>94</td>
<td>3000</td>
<td>70</td>
<td>255953</td>
<td>10</td>
<td>39</td>
<td></td>
</tr>
<tr>
<td>148</td>
<td>3000</td>
<td>70</td>
<td>243998</td>
<td>10</td>
<td>47</td>
<td></td>
</tr>
</tbody>
</table>


#### Knauf ‘U’ Channel – Perimeter Support

Galvanized steel section for use as standard head and floor track for Knauf Wall Liner system and as perimeter channel for Knauf C-Form ceiling systems.

<table>
<thead>
<tr>
<th>Gauge</th>
<th>Size/Webb</th>
<th>Length</th>
<th>Flange</th>
<th>Material No.</th>
<th>Length/Pack</th>
<th>Kg (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.55</td>
<td>20</td>
<td>3000</td>
<td>20/30</td>
<td>255956</td>
<td>10</td>
<td>9</td>
</tr>
</tbody>
</table>


### ‘I’ Studs & Staggered Stud

#### Knauf ‘I’ Studs

High-quality galvanized lightweight steel sections for use in non-load-bearing Knauf partition and wall lining systems allowing increased partition heights to be designed for, while providing improved robustness and impact resistance.

<table>
<thead>
<tr>
<th>Gauge</th>
<th>Size/Webb</th>
<th>Length</th>
<th>Flange</th>
<th>Material No.</th>
<th>Length/Pack</th>
<th>Kg (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.55</td>
<td>50</td>
<td>2700</td>
<td>40</td>
<td>243946</td>
<td>10</td>
<td>21</td>
</tr>
<tr>
<td>60</td>
<td>3000</td>
<td>40</td>
<td>243947</td>
<td>10</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>70</td>
<td>3600</td>
<td>40</td>
<td>243951</td>
<td>10</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>90</td>
<td>4200</td>
<td>40</td>
<td>243953</td>
<td>10</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td>0.90</td>
<td>70</td>
<td>3600</td>
<td>40</td>
<td>243955</td>
<td>10</td>
<td>39</td>
</tr>
<tr>
<td>92</td>
<td>5000</td>
<td>40</td>
<td>243973</td>
<td>10</td>
<td>77</td>
<td></td>
</tr>
<tr>
<td>148</td>
<td>6000</td>
<td>40</td>
<td>243974</td>
<td>10</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>146</td>
<td>6000</td>
<td>40</td>
<td>243941</td>
<td>10</td>
<td>116</td>
<td></td>
</tr>
</tbody>
</table>

Estimating Guide: 1.67 linear metres per m² partition (based on 600mm centres). Compliance: EN 14195.

#### Knauf Staggered Stud Clip

Spacer used to locate Knauf ‘I’ Studs in Knauf Silent Spacesaver partition systems.

<table>
<thead>
<tr>
<th>Stud size</th>
<th>Length</th>
<th>Width</th>
<th>Depth</th>
<th>Item/Pack</th>
<th>Kg (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.55</td>
<td>60</td>
<td>38</td>
<td>10</td>
<td>258332</td>
<td>100</td>
</tr>
<tr>
<td>0.90</td>
<td>92</td>
<td>38</td>
<td>54</td>
<td>258331</td>
<td>100</td>
</tr>
</tbody>
</table>

Estimating Guide: 3.3 clips per linear metre of partition (based on 300mm staggered centres). Compliance: EN 14195.

### ‘MW’ Stud & ‘UW’ Channel

#### Knauf ‘MW’ Stud

Galvanized lightweight steel section for use in non-load-bearing Knauf partition systems where increased acoustic performance is required.

<table>
<thead>
<tr>
<th>Gauge</th>
<th>Size/Webb</th>
<th>Length</th>
<th>Flange</th>
<th>Material No.</th>
<th>Length/Pack</th>
<th>Kg (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.60</td>
<td>100</td>
<td>3000</td>
<td>30</td>
<td>38697</td>
<td>8</td>
<td>23</td>
</tr>
</tbody>
</table>

Estimating Guide: 1.67 linear metres per m² partition (based on 600mm centres). Compliance: EN 14195.

#### Knauf ‘UW’ Channel

Galvanized steel section for use as the standard head and floor track for Knauf ‘MW’ Stud partitions.

<table>
<thead>
<tr>
<th>Gauge</th>
<th>Size/Webb</th>
<th>Length</th>
<th>Flange</th>
<th>Material No.</th>
<th>Length/Pack</th>
<th>Kg (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.60</td>
<td>102</td>
<td>2000</td>
<td>40</td>
<td>8447</td>
<td>8</td>
<td>14</td>
</tr>
</tbody>
</table>


---

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256 Metal Sections

Generate specifications at www.knauf.co.uk

Metal Sections 257
Ceiling & Wall Lining

Knauf ‘C’ Channel

Galvanised lightweight steel section for use in Knauf wall lining systems and Knauf C-Form ceiling systems.

<table>
<thead>
<tr>
<th>Dimensions [mm]</th>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size/Webb</td>
<td>Length</td>
<td>Flange</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lengths/Pack Kg (approx.)</td>
</tr>
<tr>
<td>47</td>
<td>2400</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>2700</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>3000</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>4000</td>
<td>17</td>
</tr>
</tbody>
</table>

Estimating Guide: 1.67 linear metres per m² of wall lining (based on 600mm centres). Compliance: EN 14195.

Knauf Channel Intersection Connector

Locates primary and secondary channels in the Knauf C-Form ceiling system.

<table>
<thead>
<tr>
<th>Dimensions [mm]</th>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>a</td>
<td>b</td>
</tr>
<tr>
<td>36</td>
<td>49</td>
<td>258298 100 2</td>
</tr>
</tbody>
</table>

Estimating Guide: 1.1 Connectors per m² of C-Form ceiling.

Knauf ‘C’ Channel Connector

Used to join two sections of Knauf ‘C’ Channel in Knauf C-Form ceiling systems.

<table>
<thead>
<tr>
<th>Dimensions [mm]</th>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Webb</td>
<td>Flange</td>
<td>Width</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Items/Pack Kg (approx.)</td>
</tr>
<tr>
<td>45</td>
<td>15</td>
<td>98</td>
</tr>
</tbody>
</table>

Knauf Universal Bracket

Supplied flat, the Knauf Universal Bracket locates the Knauf ‘C’ Channel to the background support. Can be separated to form 2 single channel hangers.

<table>
<thead>
<tr>
<th>Dimensions [mm]</th>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Webb</td>
<td>Flange</td>
<td>Items/Pack Kg (approx.)</td>
</tr>
<tr>
<td>46</td>
<td>127</td>
<td>258291 100 7</td>
</tr>
</tbody>
</table>

Estimating Guide: 2 brackets per m² of wall lining; 0.7 hangers per m² of C-Form.

Knauf Soffit Cleat

Cleat to connect ceiling system to the structural soffit of the building. Pre-drilled to take the required fixings.

<table>
<thead>
<tr>
<th>Dimensions [mm]</th>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Items/Pack Kg (approx.)</td>
<td></td>
</tr>
<tr>
<td>25 x 25</td>
<td>258329 100 2</td>
<td></td>
</tr>
</tbody>
</table>

Ceiling & Wall Lining

Knauf Strap Hanger

Suspension strap to support Knauf C-Form and Knauf MF Ceiling systems, this product connects to the soffit cleat and can be simply cut to the length required for ease of installation.

<table>
<thead>
<tr>
<th>Dimensions [mm]</th>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Webb</td>
<td>Length</td>
<td>Width</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.55</td>
<td>25000</td>
<td>25</td>
</tr>
</tbody>
</table>

Knauf MF Connecting Clip

Secures the Knauf MF Ceiling Channel to the Knauf MF Primary Support Channel.

<table>
<thead>
<tr>
<th>Dimensions [mm]</th>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gauge</td>
<td>Length</td>
<td>Depth</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.65</td>
<td>3600</td>
<td>20</td>
</tr>
</tbody>
</table>

Knauf MF Ceiling Channel

Galvanised steel main channel section for the Knauf MF Ceiling system to which the Knauf Plasterboard is fixed - always for the board using Knauf Screws.

<table>
<thead>
<tr>
<th>Dimensions [mm]</th>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gauge</td>
<td>Length</td>
<td>Depth</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.55</td>
<td>3600</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Estimating Guide: 1.67 linear metres per m² of ceiling (based on 600mm centres with 15mm plasterboard).

Knauf MF Perimeter Channel

Galvanised steel section to be used around the perimeter of Knauf MF Ceiling systems.

<table>
<thead>
<tr>
<th>Dimensions [mm]</th>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gauge</td>
<td>Length</td>
<td>Upper Depth</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.55</td>
<td>3600</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Knauf MF Primary Support Channel

Galvanised steel section to be used as the main crosssection and hanger support section of the Knauf MF Ceiling system.

<table>
<thead>
<tr>
<th>Dimensions [mm]</th>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gauge</td>
<td>Length</td>
<td>Depth</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.80</td>
<td>3600</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Estimating Guide: 0.83 linear metres per m² of ceiling for single or double layered system.

Knauf MF Nut and Bolt

Nut and bolt for fixing strap hanger to the soffit cleat.

<table>
<thead>
<tr>
<th>Dimensions [mm]</th>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter</td>
<td></td>
<td>Items/Pack Kg (approx.)</td>
</tr>
<tr>
<td>6</td>
<td>258293 200 3</td>
<td></td>
</tr>
</tbody>
</table>
Shaftwall System

Knauf Shaftwall systems offer economic solutions to provide non-load-bearing lift or stair enclosures, utilising a lightweight framework built from one side.

**Knauf ‘C-T’ Stud**
Unique galvanised steel section used in the Knauf Shaftwall system to allow quick and safe construction from one side with the minimum number of components.

```
Dimensions (mm) Material No. Pack Details
Gage Size/Webb length Flange Lengths/Pack Kg (approx.)
0.92 60 3000 38.5 243804 10 42
0.92 450 38.5 243811 10 63
92 4500 38.5 243818 10 73
146 5500 38.5 243801 10 110
146 6500 38.5 243802 10 130
```

Estimating Guide: 1.67 linear metres per m² of Shaftwall (based on 600mm centres). Compliance: EN 14195.

**Knauf ‘J’ Channel**
High-quality galvanised steel section used as head and floor track and perimeter framing section of the Knauf Shaftwall system.

```
Dimensions (mm) Material No. Pack Details
Gage Size/Webb length Flange Lengths/Pack Kg (approx.)
0.92 62 3000 25/70 243977 10 32
94 4500 25/70 243983 10 49
148 5500 25/70 243989 10 72
148 6500 25/70 243975 10 110
```


**Knauf Core Board Channel**
High-quality galvanised steel section used to provide fixing for horizontal Knauf Core Board joints to ensure fire protection of the Knauf Shaftwall system.

```
Dimensions (mm) Material No. Pack Details
Gage Size/Webb length Flange Lengths/Pack Kg (approx.)
0.55 20 3600 10/20 243799 10 8.0
```


**Knauf Resilient Bar**
Robust Detail compliant resilient metal section which is fixed to floors and partitions to reduce direct sound transmission. Knauf Resilient bar can be used in any Robust Detail where it states that a resilient bar must be used.

```
Dimensions (mm) Material No. Pack Details
Gage Size Length Material No. Items/Pack Kg (approx.)
0.53 50 3000 258288 10 11
```

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---

**Metal Accessories**

**Knauf Metal Furring Channel**
Galvanised steel section installed using Knauf Plasterboard Adhesive as a metal wall lining furring.

```
Dimensions (mm) Material No. Pack Details
Gauge Length Width Depth Lengths/Pack Kg (approx.)
0.53 2400 30 9.5 258289 10 25
```

**Knauf Flat Fixing Plate**
Lightweight galvanised steel fixing plate for use within partitions, wall linings and ceilings. Used as a part of a deflection head as well as to improve rigidity or for horizontal board joints where required.

```
Dimensions (mm) Material No. Pack Details
Gauge Size Length Material No. Lengths/Pack Kg (approx.)
0.70 70 2400 258300 10 12
```

**Knauf Fixing Channel**
Lightweight galvanised steel fixing plate with flanges for additional rigidity over the flat fixing plate, for use with partitions and wall linings.

```
Dimensions (mm) Material No. Pack Details
Gauge Size Length Flange Material No. Lengths/Pack Kg (approx.)
0.70 96 2400 9.5 258299 10 16
```

**Knauf Angle Sections**
Galvanised mild steel angles for use with partitions, column and beam encasements and suspended ceilings.

```
Dimensions (mm) Material No. Pack Details
Gauge Size Angle (deg) Length Material No. Lengths/Pack Kg (approx.)
0.70 25 x 25 3000 90 258285 10 11
0.70 25 x 50 3000 90 258286 10 16
```

**Knauf Fixing Clip**
Part of the Knauf Encasement system.

```
Dimensions (mm) Material No. Pack Details
Length Height Material No. Items/Pack Kg (approx.)
45 28 258330 50 2
```

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Specialist Systems

Knauf Apertura, our decorative acoustic panel system, is the ideal sound absorption solution and can achieve an industry-leading Class B performance. Along with Knauf Aquapanel Interior and Exterior, it forms part of our innovative range of specialist solutions.

Aquapanel Interior
Knauf Aquapanel Interior Boards and Accessories
Aquapanel Interior is a glass fibre reinforced cement backer board designed to be used as a high-performance tile backing board. It will not deteriorate in water and offers very high impact resistance. It is also ideal as a general building board. Refer to the Knauf Aquapanel Interior brochure for Aquapanel Interior installation guidelines for commercial applications or contact Knauf Technical Services for more information.

Knauf Aquapanel Interior Cement Board
Knauf Aquapanel Interior is a tough, impact-resistant glass fibre reinforced cement tile backer for use in wet and humid areas.

<table>
<thead>
<tr>
<th>Thickness</th>
<th>Width</th>
<th>Length</th>
<th>Material No.</th>
<th>Boards m²</th>
<th>Tones (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.5</td>
<td>900</td>
<td>1200</td>
<td>87249</td>
<td>50</td>
<td>54.0 0.81</td>
</tr>
<tr>
<td>12.5</td>
<td>900</td>
<td>2400</td>
<td>87251</td>
<td>25</td>
<td>54.0 0.81</td>
</tr>
</tbody>
</table>

Note: 2400mm long board is recommended for use in commercial applications.

Knauf Aquapanel Floor Tile Underlay
Now Aquapanel technology is available in a thin tile underlay for floors. Aquapanel Floor Tile Underlay is made from tough Portland cement and has a coated fibre mesh embedded in the core. At only 3mm thick, room height is not compromised. Will not rot or warp.

<table>
<thead>
<tr>
<th>Thickness</th>
<th>Width</th>
<th>Length</th>
<th>Material No.</th>
<th>Boards m²</th>
<th>Tones (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>900</td>
<td>1200</td>
<td>240211</td>
<td>50</td>
<td>54.0 0.46</td>
</tr>
</tbody>
</table>

Knauf Aquapanel Interior Screws
Ceramic coated screws for fixing Aquapanel Interior to timber studs.

<table>
<thead>
<tr>
<th>Length</th>
<th>Diameter</th>
<th>Material No.</th>
<th>Packs per Carton Kg (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>4.2</td>
<td>256325</td>
<td>10 3.3</td>
</tr>
</tbody>
</table>

Knauf Aquapanel Maxi Screws (SN)
Corrosion-protected screws for fixing Aquapanel Interior to light gauge steel profiles (up to 0.7mm) as part of Knauf Aquapanel Interior and Exterior systems. They have a needle point and countersunk heads.

<table>
<thead>
<tr>
<th>Length</th>
<th>Diameter</th>
<th>Material No.</th>
<th>Items per Carton Kg (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>4.2</td>
<td>87319</td>
<td>1000 1.8</td>
</tr>
<tr>
<td>25</td>
<td>4.2</td>
<td>159315</td>
<td>150 0.25</td>
</tr>
<tr>
<td>39</td>
<td>4.2</td>
<td>53300</td>
<td>500 2.0</td>
</tr>
<tr>
<td>55</td>
<td>4.2</td>
<td>95644</td>
<td>250 2.0</td>
</tr>
</tbody>
</table>

Knauf Aquapanel Interior Joint Adhesive
Gun-applied PU adhesive used for jointing Aquapanel Interior Cement Boards, as part of Aquapanel Interior systems.

<table>
<thead>
<tr>
<th>Cartridge Size (ml)</th>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>310</td>
<td>49376</td>
<td>20 Cartridges per pack</td>
</tr>
</tbody>
</table>

Shelf life: 12 months. Estimating Guide: 1 Cartridge is sufficient to joint approximately 10m² of wall.
Aquapanel Interior
Knauf Aquapanel Interior Joint Tape
All-aluminate-resistant joint tape for use in non-commercial applications where Aquapanel Interior is to be jointed using tile adhesive.

<table>
<thead>
<tr>
<th>Roll Size (m)</th>
<th>Material No.</th>
<th>Carton Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>258339</td>
<td>12 Kg (approx.)</td>
</tr>
</tbody>
</table>

Knauf Aquapanel Board Primer
Premixed synthetic dispersion for priming Aquapanel Interior after jointing and filling.

<table>
<thead>
<tr>
<th>Tub Size (l)</th>
<th>Material No.</th>
<th>Pallet Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>49279</td>
<td>24 Tonne (approx.)</td>
</tr>
</tbody>
</table>

Knauf Aquapanel Interior Joint Filler & Skim Coat – White
Cement-bound material for skin coating Aquapanel Interior in non-tiled areas. Aquapanel Exterior Reinforcing Mesh must be embedded.

<table>
<thead>
<tr>
<th>Bag Size (kg)</th>
<th>Material No.</th>
<th>Pallet Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>131095</td>
<td>48 Tonne (approx.)</td>
</tr>
</tbody>
</table>

Knauf Aquapanel Interior Skim
Ready-mixed water-resistant skim coat for use over Aquapanel Interior to create a smooth and level finished surface, ready for painting.

<table>
<thead>
<tr>
<th>Bag Size (kg)</th>
<th>Material No.</th>
<th>Pallet Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>258278</td>
<td>40 Tonne (approx.)</td>
</tr>
</tbody>
</table>

Aquapanel Exterior
Knauf Aquapanel Exterior Boards and Accessories
Aquapanel Exterior cement board technology sets new standards for the design and construction of buildings across Europe. Aquapanel Exterior systems offer a high-quality and economical alternative to traditional methods of construction, such as brick and block. It provides a solid, dry base that can withstand the extreme weathering effects of wind, rain, and snow. It is an ideal substrate for Aquapanel Plaster and other render finishes (subject to approval). It can be used for exterior walls in ventilated systems, water managed (directly-applied) systems, exterior ceilings and soffits.

Knauf Aquapanel Exterior Cement Board
Knauf Aquapanel Exterior is a tough cement board for exterior use with a Portland cement and aggregate core and coated glass fibre mesh embedded in the back and front surfaces. Ends are square cut and edges are reinforced and finished smoothly.

<table>
<thead>
<tr>
<th>Thickness</th>
<th>Material No.</th>
<th>Carton Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.5</td>
<td>63117</td>
<td>50 Tonne (approx.)</td>
</tr>
<tr>
<td>9.0</td>
<td>50111</td>
<td>25 Tonne (approx.)</td>
</tr>
</tbody>
</table>

Knauf Aquapanel Exterior Maxi Screws (SN)
Corroded-resistant screws for fixing Aquapanel Cement Board to light gauge steel profiles (up to 0.7mm) as part of Aquapanel Interior and Exterior systems. They have a needle point and countersunk heads.

<table>
<thead>
<tr>
<th>Length (mm)</th>
<th>Diameter (mm)</th>
<th>Material No.</th>
<th>Items per Carton</th>
<th>Kg (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>4.2</td>
<td>87119</td>
<td>1000</td>
<td>1.8</td>
</tr>
<tr>
<td>25</td>
<td>4.2</td>
<td>195315</td>
<td>150</td>
<td>0.25</td>
</tr>
<tr>
<td>39</td>
<td>4.2</td>
<td>53500</td>
<td>500</td>
<td>2.0</td>
</tr>
<tr>
<td>55</td>
<td>4.2</td>
<td>95644</td>
<td>250</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Knauf Aquapanel Exterior Maxi Screws (SB)
Knauf Aquapanel Exterior Maxi Screws have been specially developed for fixing Aquapanel Exterior onto heavy gauge steel profiles (0.8mm–2.0mm) as part of the Aquapanel Exterior system. They have a drill point and countersunk heads.

<table>
<thead>
<tr>
<th>Length (mm)</th>
<th>Diameter (mm)</th>
<th>Material No.</th>
<th>Items per Carton</th>
<th>Kg (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>4.2</td>
<td>94730</td>
<td>250</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Knauf Aquapanel Exterior Stainless Steel Screws (SN)
40mm stainless steel screws specially developed for fixing Aquapanel Exterior to timber substructures.

<table>
<thead>
<tr>
<th>Length (mm)</th>
<th>Diameter (mm)</th>
<th>Material No.</th>
<th>Items per Carton</th>
<th>Kg (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>4</td>
<td>87197</td>
<td>250</td>
<td>0.7</td>
</tr>
</tbody>
</table>

Knauf Aquapanel Exterior Joint Filler – Grey
Aquapanel Exterior Joint Filler – Grey is a cement-based material for filling joints and embedding Aquapanel Exterior Joint Tapes and Aquapanel Exterior Reinforcing Mesh as part of the Aquapanel Exterior system.

<table>
<thead>
<tr>
<th>Bag Size (kg)</th>
<th>Material No.</th>
<th>Pallet Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>131094</td>
<td>48 Tonne (approx.)</td>
</tr>
</tbody>
</table>
### Aquapanel Exterior

**Knauf Aquapanel Exterior Joint Tape**

Aquapanel Exterior Joint Tape is a 100mm wide, glass fibre tape with an alkaline-resistant coating. It is embedded into Aquapanel Exterior Joint Filler to reinforce exterior joints as part of the Aquapanel Exterior system.

<table>
<thead>
<tr>
<th>Roll Size</th>
<th>Material No.</th>
<th>Carton Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length [m]</td>
<td>Width [mm]</td>
<td>Rolls per Carton Kg (approx.)</td>
</tr>
<tr>
<td>50</td>
<td>100</td>
<td>12 4</td>
</tr>
</tbody>
</table>

**Knauf Aquapanel Exterior Joint Filler**

Aquapanel Exterior Joint Filler is a 15mm thick, water-based, self-leveling joint filler used to create smooth, even exterior joints as part of the Aquapanel Exterior system.

<table>
<thead>
<tr>
<th>Roll Size</th>
<th>Material No.</th>
<th>Carton Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length [m]</td>
<td>Width [mm]</td>
<td>Rolls per Carton Kg (approx.)</td>
</tr>
<tr>
<td>50</td>
<td>100</td>
<td>12 4</td>
</tr>
</tbody>
</table>

**Knauf Aquapanel Exterior Joint Tape**

Aquapanel Exterior Joint Tape is a 100mm wide, glass fibre tape with an alkaline-resistant coating. It is embedded into Aquapanel Exterior Joint Filler to reinforce exterior joints as part of the Aquapanel Exterior system.

<table>
<thead>
<tr>
<th>Roll Size</th>
<th>Material No.</th>
<th>Carton Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length [m]</td>
<td>Width [mm]</td>
<td>Rolls per Carton Kg (approx.)</td>
</tr>
<tr>
<td>50</td>
<td>100</td>
<td>12 4</td>
</tr>
</tbody>
</table>

### Knauf Aquapanel Exterior Reinforcing Tape

Aquapanel Exterior Reinforcing Tape is a 330mm wide meshed glass fabric. It is embedded in Aquapanel Exterior Joint Filler to reinforce exterior joints where paint or alternative finishes are to be applied on top of the Aquapanel Exterior Basecoat, as part of the Aquapanel Exterior system.

<table>
<thead>
<tr>
<th>Roll Size</th>
<th>Material No.</th>
<th>Carton Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length [m]</td>
<td>Width [mm]</td>
<td>Rolls per Carton Kg (approx.)</td>
</tr>
<tr>
<td>50</td>
<td>330</td>
<td>12 10</td>
</tr>
</tbody>
</table>

### Knauf Aquapanel Exterior Reinforcing Mesh

Aquapanel Exterior Reinforcing Mesh is a 1m wide, alkaline-resistant glass fabric mesh designed for complete cover reinforcement of Aquapanel Exterior Basecoat as part of the Aquapanel Exterior system.

<table>
<thead>
<tr>
<th>Roll Size</th>
<th>Material No.</th>
<th>Carton Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length [m]</td>
<td>Width [m]</td>
<td>Rolls per Pallet Kg (approx.)</td>
</tr>
<tr>
<td>50</td>
<td>1</td>
<td>38546 375</td>
</tr>
</tbody>
</table>

### Knauf Aquapanel Exterior Typek® StuccoWrap™

Aquapanel Exterior Typek® StuccoWrap™ is a special acrylic membrane to be used as a water barrier from the outside to the inside, which allows vapour diffusion from the inside to the outside. It is used in water managed (drainage applied) systems, installed as a moisture-carrying layer directly behind the board as part of the Aquapanel Exterior system.

<table>
<thead>
<tr>
<th>Roll Size</th>
<th>Material No.</th>
<th>Carton Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length [m]</td>
<td>Width [m]</td>
<td>Rolls per Pallet Kg (approx.)</td>
</tr>
<tr>
<td>75</td>
<td>1.5</td>
<td>38546 375</td>
</tr>
</tbody>
</table>

### Knauf Aquapanel Exterior Basecoat – White

Aquapanel Exterior Basecoat – White is a Portland cement-based, synthetic resin-enhanced basecoat which serves as a complete basecoat as part of the Aquapanel Exterior system. The drying time is only 24 hours. It dries to a white colour with a smooth surface, ideal underneath light coloured finishes.

<table>
<thead>
<tr>
<th>Bag Size</th>
<th>Material No.</th>
<th>Pallet Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kg</td>
<td>Bags</td>
<td>Tonnes (approx.)</td>
</tr>
<tr>
<td>25</td>
<td>102812</td>
<td>42 1.05</td>
</tr>
</tbody>
</table>

**Knauf Aquapanel Exterior Basecoat – Grey**

Aquapanel Exterior Basecoat – Grey is a Portland cement-based, synthetic resin-enhanced basecoat to serve as a complete basecoat on Aquapanel Exterior Cement Board. The drying time is 1 day per mm of thickness e.g. 5 days for 5mm thickness.

<table>
<thead>
<tr>
<th>Bag Size</th>
<th>Material No.</th>
<th>Pallet Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kg</td>
<td>Bags</td>
<td>Tonnes (approx.)</td>
</tr>
<tr>
<td>25</td>
<td>49137</td>
<td>42 1.05</td>
</tr>
</tbody>
</table>

**Knauf Aquapanel Basecoat Primer**

Aquapanel Basecoat Primer is a pre-mixed, white coloured, water-based emulsion for priming basecoated substrates where Aquapanel Exterior finishes are used as part of the Aquapanel Exterior system.

<table>
<thead>
<tr>
<th>Tub Size</th>
<th>Material No.</th>
<th>Pallet Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kg</td>
<td>Tubs</td>
<td>Tonnes (approx.)</td>
</tr>
<tr>
<td>12</td>
<td>49299</td>
<td>24 0.36</td>
</tr>
</tbody>
</table>

**Knauf Aquapanel Exterior Silicon Synthetic Resin Plaster**

Aquapanel Exterior Silicon Synthetic Resin Plaster is a white, ready-to-use, finishing plaster with a maximum grain size of 2mm for applying on Aquapanel Exterior Basecoat and Aquapanel Exterior Primer. It is water-resistant and allows diffusion with $sd > 0.1$m.

<table>
<thead>
<tr>
<th>Tub Size</th>
<th>Material No.</th>
<th>Pallet Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kg</td>
<td>Tubs</td>
<td>Tonnes (approx.)</td>
</tr>
<tr>
<td>25</td>
<td>87268</td>
<td>24 0.6</td>
</tr>
</tbody>
</table>

**Knauf Aquapanel Exterior Dispersion Plaster**

Aquapanel Exterior Dispersion Plaster is a white, ready-to-use, finishing plaster with a maximum grain size of 2mm for applying on Aquapanel Exterior Basecoat and Aquapanel Exterior Primer. It is water-resistant and allows diffusion with $sd > 0.1$m.

<table>
<thead>
<tr>
<th>Tub Size</th>
<th>Material No.</th>
<th>Pallet Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kg</td>
<td>Tubs</td>
<td>Tonnes (approx.)</td>
</tr>
<tr>
<td>25</td>
<td>100286</td>
<td>36 1.08</td>
</tr>
</tbody>
</table>

**Knauf Aquapanel Exterior Mineral Finish Plaster – White**

Aquapanel Exterior Mineral Finish Plaster – White is a decorative plaster with a maximum grain size of 2mm, for application on top of Aquapanel Exterior Basecoat either as a smooth floating finishing render or freely structured using different tools and designs. It is also available in 212 colour shades, subject to a premium and a minimum order quantity – please contact Knauf for details.

<table>
<thead>
<tr>
<th>Bag Size</th>
<th>Material No.</th>
<th>Pallet Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kg</td>
<td>Bags</td>
<td>Tonnes (approx.)</td>
</tr>
<tr>
<td>30</td>
<td>100286</td>
<td>36 1.08</td>
</tr>
</tbody>
</table>

**Generate specifications at www.knauf.co.uk**
Knauf Apertura

Knauf Apertura Plasterboards combine aesthetic appearance and high sound absorption properties to reduce sound reverberation. And the new generation of Knauf Apertura Plasterboards have a unique FF edge profile, a lapped edge on two sides of the panel, helping to ensure boards are correctly spaced and minimising the amount of jointing material required to create a perfect seamless finish.

Knauf Apertura Circular Perforated Plasterboards (FF Edge)

The Knauf Apertura Circular Perforated Plasterboard range offers seven sizes of circular straight line perforation, five with one perforation size and two with two perforation sizes. They are supplied backed with an acoustic lining in either black or white. Each board has precision-engineered edges to enable a unique seamless finish when jointed with Knauf Uniflott. An installation kit is available to ensure that the perforations are accurately lined up.

<table>
<thead>
<tr>
<th>Aperture</th>
<th>Dimensions (mm)</th>
<th>Material No.</th>
<th>Fleece</th>
<th>Weight Kg/m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/18</td>
<td>6 18 12.5 1188 1998</td>
<td>94387</td>
<td>White</td>
<td>10.7</td>
</tr>
<tr>
<td>6/18</td>
<td>6 18 12.5 1188 1998</td>
<td>94386</td>
<td>Black</td>
<td>10.7</td>
</tr>
<tr>
<td>8/18</td>
<td>8 18 12.5 1188 1998</td>
<td>94387</td>
<td>White</td>
<td>9.9</td>
</tr>
<tr>
<td>8/18</td>
<td>8 18 12.5 1188 1998</td>
<td>94394</td>
<td>Black</td>
<td>9.9</td>
</tr>
<tr>
<td>10/23</td>
<td>10 23 12.5 1196 2001</td>
<td>94421</td>
<td>White</td>
<td>9.9</td>
</tr>
<tr>
<td>10/23</td>
<td>10 23 12.5 1196 2001</td>
<td>94420</td>
<td>Black</td>
<td>9.9</td>
</tr>
<tr>
<td>12/25</td>
<td>12 25 12.5 1200 2000</td>
<td>94429</td>
<td>White</td>
<td>9.6</td>
</tr>
<tr>
<td>12/25</td>
<td>12 25 12.5 1200 2000</td>
<td>94428</td>
<td>Black</td>
<td>9.6</td>
</tr>
<tr>
<td>13/30</td>
<td>15 30 12.5 1200 1980</td>
<td>94466</td>
<td>White</td>
<td>9.3</td>
</tr>
<tr>
<td>13/30</td>
<td>15 30 12.5 1200 1980</td>
<td>94465</td>
<td>Black</td>
<td>9.3</td>
</tr>
</tbody>
</table>

Knauf Apertura Random Circular Perforated Plasterboards (FF Edge)

The Knauf Apertura Random Circular Perforated Plasterboard range offers two types of random circular perforation. Each board has circular perforations of three different sizes in a random pattern. They are supplied backed with an acoustic lining in either black or white. Each board has precision-engineered edges to enable a unique seamless finish to be achieved when jointed with Knauf Uniflott.

<table>
<thead>
<tr>
<th>Aperture</th>
<th>Dimensions (mm)</th>
<th>Material No.</th>
<th>Fleece</th>
<th>Weight Kg/m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/15/20</td>
<td>8 15 20 12.5 1200 1875</td>
<td>94450</td>
<td>White</td>
<td>10.5</td>
</tr>
<tr>
<td>8/15/20</td>
<td>8 15 20 12.5 1200 1875</td>
<td>94451</td>
<td>Black</td>
<td>10.5</td>
</tr>
<tr>
<td>12/20/35</td>
<td>12 20 35 12.5 1200 1875</td>
<td>94456</td>
<td>White</td>
<td>10.5</td>
</tr>
<tr>
<td>12/20/35</td>
<td>12 20 35 12.5 1200 1875</td>
<td>94455</td>
<td>Black</td>
<td>10.5</td>
</tr>
</tbody>
</table>

Knauf Apertura Square Perforated Plasterboards (FF Edge)

The Knauf Apertura Square Perforated Plasterboard range offers two sizes of square straight line perforation. They are supplied backed with an acoustic lining in either black or white. Each board has precision-engineered lapped edges to enable a unique seamless finish to be achieved when jointed with Knauf Uniflott.

<table>
<thead>
<tr>
<th>Aperture</th>
<th>Dimensions (mm)</th>
<th>Material No.</th>
<th>Fleece</th>
<th>Weight Kg/m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Square</td>
<td>6 18 12.5 1188 1998</td>
<td>94413</td>
<td>White</td>
<td>9.4</td>
</tr>
<tr>
<td>Square</td>
<td>8 18 12.5 1188 1998</td>
<td>94412</td>
<td>Black</td>
<td>9.4</td>
</tr>
<tr>
<td>8/18</td>
<td>8 18 12.5 1188 1998</td>
<td>94438</td>
<td>White</td>
<td>9.2</td>
</tr>
<tr>
<td>12/25</td>
<td>12 25 12.5 1200 2000</td>
<td>94437</td>
<td>Black</td>
<td>9.2</td>
</tr>
</tbody>
</table>

Knauf Apertura Slot Patterned Plasterboards (Square Edge)

The Knauf Apertura Slot Patterned Plasterboard range offers three types of slot pattern. They are supplied backed with an acoustic lining in either black or white. Each board has square edges and should be jointed with Knauf Uniflott.

<table>
<thead>
<tr>
<th>Pattern</th>
<th>Dimensions</th>
<th>Material No.</th>
<th>Fleece</th>
<th>Weight Kg/m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>B4</td>
<td>12.5 1200 2400</td>
<td>286425</td>
<td>White</td>
<td>9.6</td>
</tr>
<tr>
<td>B5</td>
<td>12.5 1200 2400</td>
<td>286426</td>
<td>Black</td>
<td>9.6</td>
</tr>
<tr>
<td>B6</td>
<td>12.5 1200 2400</td>
<td>286430</td>
<td>Black</td>
<td>9.6</td>
</tr>
</tbody>
</table>

Knauf Apertura Square Patterned Plasterboards (FF Edge)

The Knauf Apertura Square Patterned Plasterboard range offers two types of square pattern. They are supplied backed with an acoustic lining in either black or white. Each board has precision-engineered lapped edges to enable a unique seamless finish to be achieved when jointed with Knauf Uniflott.

<table>
<thead>
<tr>
<th>Pattern</th>
<th>Dimensions</th>
<th>Material No.</th>
<th>Fleece</th>
<th>Weight Kg/m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>B4</td>
<td>12.5 1200 2400</td>
<td>286412</td>
<td>White</td>
<td>9.6</td>
</tr>
<tr>
<td>B5</td>
<td>12.5 1200 2400</td>
<td>286413</td>
<td>Black</td>
<td>9.6</td>
</tr>
<tr>
<td>B6</td>
<td>12.5 1200 2400</td>
<td>286416</td>
<td>Black</td>
<td>9.6</td>
</tr>
</tbody>
</table>
Knauf Apertura

Apertura Linear Perforated Plasterboards

The Knauf Apertura Linear Perforated Plasterboard range offers a unique installation requiring no jointing when used in conjunction with Knauf Apertura Linear Caps. This system offers a very quick and clean installation while still providing excellent acoustic performance and aesthetic design. Knauf Apertura Linear is available in three sizes of circular perforation and one random circular perforation.

**One Size of Perforation**

<table>
<thead>
<tr>
<th>Aperture</th>
<th>Dimensions (mm)</th>
<th>Material No.</th>
<th>Fleece Colour</th>
<th>Weight Kg/m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circular</td>
<td>a b Thickness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8/18</td>
<td>8 18 12.5</td>
<td>1188 1998</td>
<td>146210 White</td>
<td>9.9</td>
</tr>
<tr>
<td>10/23</td>
<td>10 23 12.5</td>
<td>1196 2001</td>
<td>146212 Black</td>
<td>9.9</td>
</tr>
<tr>
<td>12/25</td>
<td>12 25 12.5</td>
<td>1200 2000</td>
<td>146215 Black</td>
<td>9.6</td>
</tr>
</tbody>
</table>

Area of Perforation: 8/18 = 15.5% 10/23 = 16.8% 12/25 = 18.1%

**Two Sizes of Perforation**

<table>
<thead>
<tr>
<th>Aperture</th>
<th>Dimensions (mm)</th>
<th>Material No.</th>
<th>Fleece Colour</th>
<th>Weight Kg/m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circular</td>
<td>a b Thickness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12/20/66</td>
<td>12 20 66 12.5</td>
<td>1188 1980</td>
<td>146221 White</td>
<td>9.4</td>
</tr>
<tr>
<td>12/20/66</td>
<td>12 20 66 12.5</td>
<td>1188 1980</td>
<td>146220 Black</td>
<td>9.4</td>
</tr>
</tbody>
</table>

Area of Perforation: 12/20/66 = 19.6%

Apertura Linear Caps

Knauf Apertura Linear Caps and screws allow Knauf Apertura linear boards to be fixed to the ceiling grid or wall liner without the need to fill the joints or cover screw heads. Each carton contains 500 caps and 500 screws.

<table>
<thead>
<tr>
<th>Diameter (mm)</th>
<th>Material No.</th>
<th>Carton Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>248099</td>
<td>500 0.34</td>
</tr>
<tr>
<td>10</td>
<td>248102</td>
<td>500 0.34</td>
</tr>
<tr>
<td>12</td>
<td>248103</td>
<td>500 0.34</td>
</tr>
</tbody>
</table>

Apertura Metal Components

**Knauf Apertura ‘U’ Mounting Bracket**

Locates Knauf Apertura ‘C’ Channel to background support. Supplied with 35mm self-tapping fixing screws.

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>Material No.</th>
<th>Items per Pack</th>
<th>Kg (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width Flange</td>
<td>258290</td>
<td>100</td>
<td>7</td>
</tr>
</tbody>
</table>

**Knauf Apertura ‘C’ Channel**

Galvanised lightweight steel section for use as primary and secondary support channel for Knauf Apertura and Wall Lining systems.

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>Material No.</th>
<th>Items per Pack</th>
<th>Kg (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gauge Size/ Webb</td>
<td>243790</td>
<td>10</td>
<td>21</td>
</tr>
</tbody>
</table>

**Knauf Apertura ‘U’ Channel**

Galvanised steel section for use with the Knauf Apertura Ceiling and Wall Lining systems.

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>Material No.</th>
<th>Items per Pack</th>
<th>Kg (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size/ Webb</td>
<td>258292</td>
<td>100</td>
<td>4</td>
</tr>
</tbody>
</table>

**Knauf Apertura Channel Hanger**

Locates into the primary support channel in the Knauf Apertura Ceiling system.

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>Material No.</th>
<th>Items per Pack</th>
<th>Kg (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td>258297</td>
<td>100</td>
<td>5</td>
</tr>
</tbody>
</table>

**Knauf Apertura Channel Intersection Connector**

Locates primary and secondary channels in the Knauf Apertura Ceiling system.

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>Material No.</th>
<th>Items per Pack</th>
<th>Kg (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a b</td>
<td>258297</td>
<td>100</td>
<td>5</td>
</tr>
</tbody>
</table>

**Knauf Apertura ‘C’ Channel Connector**

Used to extend Knauf Apertura ‘C’ Channel.

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>Material No.</th>
<th>Items per Pack</th>
<th>Kg (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size/ Webb</td>
<td>258295</td>
<td>100</td>
<td>10</td>
</tr>
</tbody>
</table>
Apertura Jointing & Accessories

Knauf Uniflott

Knauf Uniflott is a specially formulated joint compound for use with Knauf Apertura Plasterboards to create a seamless finish.

<table>
<thead>
<tr>
<th>Bag Size</th>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kg</td>
<td>2583631</td>
<td>42 Tonnes (approx.)</td>
</tr>
</tbody>
</table>

Available as part pallet. Shelf life: 6 months. Estimating Guide: One bag will finish approximately 21m² of board.

Knauf Uniflott Applicator

Gun applicator for applying Knauf Uniflott.

<table>
<thead>
<tr>
<th>Material No.</th>
<th>Pack Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>30234</td>
<td>Items per Pack: 1</td>
</tr>
</tbody>
</table>

Knauf Apertura Installation Kit

Consists of two Assembly Aids to help with setting of perforation spacing for circular perforated boards.

<table>
<thead>
<tr>
<th>To Fit Perforation</th>
<th>Material No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circular</td>
<td></td>
</tr>
<tr>
<td>6/18</td>
<td>83280</td>
</tr>
<tr>
<td>8/18</td>
<td>83281</td>
</tr>
<tr>
<td>10/23</td>
<td>83282</td>
</tr>
<tr>
<td>12/25</td>
<td>83283</td>
</tr>
<tr>
<td>15/30</td>
<td>83284</td>
</tr>
<tr>
<td>8/12/30</td>
<td>83285</td>
</tr>
<tr>
<td>12/20/66</td>
<td>83286</td>
</tr>
</tbody>
</table>

Flooring products have their own dedicated brochures

Our flooring brochures contain information on Knauf Brio, our interlocking dry floor screed system for multiple applications, and on the Knauf GIFAfloor range of high-performance flooring products for commercial environments. For further information visit: www.knauf.co.uk
Knauf and You

We believe that working with you in partnership is the best way to help produce a superb finished result that your client will be proud of.

These pages provide some insight into our expertise, our service ethos and some of the many ways that we can work with you to help you achieve your aims.
Training

Comprehensive training on drywall and plastering systems.

Knauft dedicated training centres
We have purpose-built, fully equipped training centres based in Sittingbourne and Immingham. The premises are set up in accordance with CITB requirements for the provision of both short duration and NVQ qualified training in the construction of plasterboard systems.

Wide-ranging courses
From these centres, a variety of courses are run providing practical training on the design and construction of plasterboard systems. These include partitions, wall linings, suspended ceilings, fire protection and shaftwall. Training is also provided on taping and jointing and plastering (both hand and machine applied in both cases). All tools and equipment are supplied to trainees during their time on the course.

Experience and expertise
Our training centres are staffed by experienced instructors, all of whom have a wealth of expertise in the construction industry and specialise in either plastering or drywall work. Find out more at:

Generate specifications at www.knauf.co.uk

Typical course content

Direct Bonding & Metal Furring
Duration: 1 day
This course covers the skills and knowledge required to carry out drylining using gypsum plasterboards to industry standards, covering the direct bonding and metal furring methods of drylining, and is designed for tradespersons of varying abilities who require specific training in drylining using these methods. Trainees will receive instruction in the interpretation of drawings and specifications, the selection of appropriate systems and materials and concentrating on the setting out and installation of these systems. The course will also include instruction in health and safety matters, and reference to all relevant British Standards and Codes of Practice.

Training objectives
On completion of the training the trainee will:
- Have a good working knowledge of health and safety requirements for drylining, including correct personal protective clothing where applicable
- Be able to interpret drawings and specifications to identify material requirements for a given task
- Select and prepare appropriate materials for a given task, and prepare backgrounds to receive finishes as required
- Install components and materials to form drylinings to industry standards for accuracy and finish

Instructors’ qualification
Knauft Technical Instructors are all time-served tradespersons in drylining, plastering and associated trades, and have received full training on top of extensive experience in our industry. All Knauft Technical Instructors are approved NVQ assessors for Drylining and Plastering, and the Knauft Training Centre is suitable for the delivery of training and assessment to meet NVQ standards.

Achievement measurement
Trainees will be assessed during the course as the instructors observe and discuss their progress and offer advice. An attendance certificate will be issued to all those who successfully complete the course.

You can contact Knauft Technical Services on 01795 416239.

Training Family Groups

1 Product/Systems Training
2 Direct Bonding & Metal Furring
3 Plasters
   - Basic Plastering
   - Machine Application
   - Airless
   - MPTS
   - MF Finish
4 Jointing
   - Taping and Jointing (hand applied)
5 Metal Systems
   - Metal Stud Partitions
   - Shaftwall Partitions
   - Suspended Ceiling
   - Wall linings (fixed and independent)
6 Dry Floor Systems
   - Brio
   - GIFA
7 Facades
8 Fire Protection of structured steel
9 Drywall for Site Managers

Generate specifications at www.knauf.co.uk
Environment
We at Knauf are completely committed to a high standard of environmental responsibility, including manufacturing to ISO 14001.

Environmental issues and sustainable building are at the forefront of everyone’s minds – manufacturer, architect, contractor, building owner and building user.

If you’re working for a Local Authority you’ll know that they have specific environmental requirements, and many of your direct customers are probably just as environmentally demanding too... and rightly so.

The product
Our plasterboard is manufactured from the most sustainable sources of gypsum available and we only use 100% recycled paper liners.

Knauf plasterboard is durable, does not naturally deteriorate and is also simple to recycle, something we can help with.

The same is true of our metal systems – built to last and entirely recyclable when required.

We work with contractors to reduce on-site waste and increase their recycling capacity.

The buildings our product goes into
Not only do your buildings use recyclable, environmentally low impact Knauf plasterboards in their construction, but our insulating products add to energy efficiency, reduce CO₂ emissions and help meet the Building Regulations.

We’re not only talking about new build; the same applies to the refurbishment of existing housing stock, schools, commercial or industrial premises – plasterboard constructions using our products achieve ‘A’ ratings in BRE’s Green Guide to Specification.

How we make it
Our factories are modern, ultra-efficient and use sophisticated heat recovery systems to minimise energy wastage. We are continuing to investigate and invest in alternative energy sources to reduce our impact on the environment further.

Our sites are responsibly run under the ISO 14001 accreditation scheme for environmental management.

So, whether you are using a plain ivory Wallboard, a pink Fire Panel, a blue Soundshield Plus or a mustard Impact Panel board, you and your customers can be comfortable that they are fundamentally well and truly green.

Further information:
Waste Management
Website: www.knauf.co.uk
Environment
These are just some of the ways that we are contributing to a sustainable built environment.

Product range
- Our Insulating Laminate range provides instant energy saving.
- Our plasterboard is easily recyclable.
- Aquapanel prevents tile failures and associated waste from damaged materials.
- Safeboard X-ray plasterboard removes the need for lead in X-ray departments.
- Brio Dry Screed boards reduce the ongoing energy usage of a building by improving the efficiency of underfloor heating systems.
- Our High Performance Plasterboards reduce the volume of material required for a site by reducing the number of layers required for a given performance.

Factory efficiency
- Insulated, with energy-efficient lighting throughout.
- Heat exchangers from driers save approximately 10% of our plant’s energy requirements.
- Sophisticated energy management software optimises our energy usage.
- We partner The Carbon Trust on future targets.
- We are assessing and trialling alternative energy supplies including combined heat and power (CHP) and wind.
- Our sites are ISO 14001 certified for environmental management.
- We hold accreditation to ISO 14001 and BES 6001 at both our sites.

Factory recycling
- We reprocess scrap metal back into our manufacturing process to reduce waste.
- Paper and cardboard are pulped back into production.
- Waste plastics are remelted into damp proof courses.
- Scrap timber is turned into chippings for gardens.
- Scrap metal is recycled locally.
- Used oil is collected for recycling.
- Our overalls are managed by a single company to minimise water and energy usage.

Transportation efficiency
- Our fleet uses the latest fuel-efficient trucks.
- We supply in full loads to maximise efficiency.
- Our trucks are used to deliver other goods from the area of drop to ensure the maximum number of journeys are full, reducing wasted ‘empty’ journeys.
- We are trialling alternative transport methods such as barges.

Design and construction
- Our project team actively designs-out waste and optimises systems and logistics for contractors.
- The Knauf Eco Door Jamb detail is saving thousands of square metres of waste plasterboard on commercial projects.
- We work with our contractors to reduce the amount of waste gypsum from sites and incorporate recycled gypsum in our products.

Further information:
- Insulating Laminates: 112
- Brio Dry Floor Screed: 142
- Safeboard: 176
- Aquapanel Interior: 184
- Waste Management: 282
- Our Service to You: 308
Waste Management

Plasterboard recycling

As part of our comprehensive service ethos we are committed to helping contractors with their recycling requirements wherever practical. We work closely with a number of specialist recycling partners who are able to provide a range of collection and recycling services to sites. These partners are selected for both their level of service and for their ability to recycle the site waste plasterboard into a contamination-free raw material that we can re-use into manufacturing new plasterboard.

European legislation is in place to prevent high sulphate wastes, such as gypsum, from being landfilled with other biodegradable material unless placed in a dedicated sulphate cell. In practice, this means that the majority of gypsum waste, such as plasterboard, is instead recycled, which we absolutely support. Plasterboard can nearly always be recycled and both the paper and gypsum re-used into manufacturing new plasterboard.

You can contact Knauf Technical Services on 01795 416259.

Minimising waste by good design

Most specialist recycling contractors offer a range of bags, bins, skips and containers to ensure that an adequate waste holding capacity is provided as close as possible to the point of need. It is important to separate waste plasterboard from other site wastes to prevent contamination that could prevent the material being recycled and re-used.

The positioning of plasterboard waste receptacles and the types used are dependant on the size of the building project and the space available on site. These should be planned to minimise the physical handling of plasterboard waste.

How plasterboard site waste is recycled

Raw material

We use a high percentage of FGD gypsum – a recycled product with the same properties as natural gypsum.

Production line

The different gypsum types are expertly blended to produce our high-quality plasterboard.

Construction

Plasterboard offcuts are inevitable during construction - but fortunately it’s a fully recyclable waste stream.

Waste handling

Waste offcuts are placed in dedicated receptacles and collected by a specialist recycling contractor.

Recycling station

The gypsum core of the waste plasterboard is separated from its paper facings – both are recycled.

Typical collection systems used on sites

Bulk bags 1m³ bulk waste bags are used to collect plasterboard waste from house building sites. They can be placed anywhere within a range of a lorry-mounted crane, for easy removal.

Wheelee bins (660 litre) wheelee bins are used in large or high rise buildings and can be moved close to the installers for convenience. They are taken to a central point for loading into a mobile compaction unit.

Skips (6–14 yards) 5–11m³ skips are used on medium to large sites where centralised waste collection is a convenient solution.

Ro-Ro skips (35–40 yards) 27–31m³ roll-on, roll-off containers are used on major sites that generate large waste streams and where storage space is not at a premium.
Fire and acoustic principles

Fire in a construction can be inhibited or exacerbated by a number of factors relating to both the intrinsic properties of materials, how they react to one another and how, in a construction element, they behave together.

**Reaction to fire**

- Reaction to fire measures the contribution of a material to fire growth. Materials with good reaction to fire properties – those which contribute least to fire – will achieve the highest ratings in the European Reaction to Fire classification (Euroclasses). Non-combustible products and products with a high resistance to fire – such as Knauf Brio and Knauf Plasterboard – will achieve an A rating; more combustible materials achieve lower ratings.

Generate specifications at www.knauf.co.uk

**Other factors relating to ‘reaction to fire’**

- Smoke release: the propensity of the material to release smoke.
- Burning droplets: the potential for the material to release burning droplets or particles.
- Flashover: the propensity for a material to reach “flashover”, where combustion gases may exceed a certain temperature level and there is a rapid increase in smoke and heat release.

**Surface spread of flame**

Surface spread of flame can be assessed in vertical or horizontal planes and measures the rate of flame spread along horizontal planes and measures the rate of flame spread. It is a property of composite constructions, or of structures rather than individual materials. The ‘integrity’ ratings for this property are measured in minutes of resistance before which the construction becomes structurally unsound and liable to collapse. The ‘reaction to fire’ of a Knauf System, such as Knauf Performer, refer to Fire Resistance.

**Other important factors**

- Thermal transmission: the rate of heat exchange, or the rate at which heat is transferred between the burning zone and the unburnt zone.
- Compartmentation: the division of a building into discrete fire-tight zones.
- Sound Insulation (sound reduction), prevents sound being transmitted from one part of a building to another, for example by erecting a partition or wall.
- Improved sound insulation is the main way in which the sound transmission between dwellings can be reduced. The airtightness of a construction is also critical.

**Types of sound**

- Airborne sound: Typical airborne sounds may include the human voice, musical instruments, home entertainment systems and noisy dogs. The ability of an element of construction to resist the passage of airborne sound is largely determined by three factors:

  - The sound absorbency of any cavities in the construction.
  - The structural isolation between the two outer surfaces of the structural isolation between the two outer surfaces of the construction.
  - The mass and damping behaviour of the elements of construction.

- Impact sound: Typical impact sound sources include slamming doors, stamping on the floor and vibrating washing machines. With impact sound, a relatively small impact can result in a loud sound being transmitted through the structure, often over long distances.

Impact sound can be controlled by:

- Providing a resilient layer at the point of impact – such as a resilient isolation strip under the floorboards.
- Structural isolation – such as adding a resilient layer between the floor deck and the floor structure.

**Flanking sound**

Flanking sound transmission usually refers to sound that travels through ‘flanking’ structural elements, such as the external wall that flanks a separating element between two dwellings.

Flanking sound can also include sound that travels along unintended airpaths, such as unsealed gaps in the structure and around service penetrations. Flanking sound can be controlled by:

- Sealing open airpaths.
- Forming a lining backed by a resilient layer to prevent sound energy reaching the flanking element.
- Designing out ‘weak areas’ in adjoining and abutting elements.

Separating walls that meet the specifications in the Building Regulations can fail to meet the sound performance standard if the flanking junctions are poorly detailed. It is important to follow the guidance on the flanking details and not just the construction of the wall itself.

**Noise and Part E**

Unwanted noise has been identified as a key contributor to the degradation of quality of life in residential, social and working environments.

- Many aspects of modern life contribute towards increasing levels of potential nuisance noise including:
  - the construction of housing at high densities, increasing use of home entertainment equipment throughout the home, and the 24-hour society.
  - the 24-hour society.

- So, protection against noise contributes towards the ‘quality of life’ within dwellings, and healthy, productive and attractive environments in offices, hospitals, schools and other non-domestic buildings.

In dwellings, Approved Document E of the Building Regulations is concerned with protecting residents from nuisance noise in attached dwellings and within the dwelling, and requires that separating walls and floors are built to provide specific levels of protection.

Schools, hospitals, libraries and many other types of buildings have very specific acoustic requirements. Some of which are enshrined within HTM documentation ([health](#)) and BB93 ([schools](#)) and specifications will often determine the acceptable noise levels within rooms by their purpose.

Optimising design and performance

Drying systems offer the building designer a range of options to create internal spaces which fulfil the demands of building functionality and those of acoustic criteria.

With the capacity to achieve up to 76dB (Rw) sound reduction, systems such as Knauf Isolator (page 60) and Silent Spacesaver (page 48) may enable a school architect to configure ‘noisy’ and ‘quiet’ areas closer to one another – optimising design and maintaining acoustic performance.

Achieving compliance

There are two ways to comply with Part E: first, by pre-completion testing which requires that 10% of built structures be tested to ensure acoustic performance is met; second by using a ‘Robust Detail’ – effectively, a pre-accredited form of construction that, if adhered to, guarantees performance levels compliant with Part E.

How Knauf Apertura systems absorb sound (reverberant energy)

Knauf Apertura perforated and patterned plasterboards are designed as absorbent sound (reverberant energy). The addition of mineral wool will further enhance sound absorption capacity.

The holes in Knauf Apertura allow noise to pass through but its path is disrupted, taking energy out on its return. This reduces echoes in a room. The clarity of speech or music can be tuned by the choice of pattern, using insulation and void depth.

Performance

- Standard soffit with plasterboard
- Soffit with Knauf Apertura ceiling

Knauf and You

- **Fire and Acoustic Principles**
- **Partitions**
- **Wall Linings**
- **Flooring**
- **External Linings**
- **Encasement**
- **Specialist Systems**
- **Finishes**
- **Our Products**
- **System Specification**
- **Download Spec Sheet**
- **Contents**
The following pages, 288–307, explore the key legislation and guidance relevant to the design and installation of drylining systems in residential and non-residential buildings, for new build, refurbishment or extensions.

In the main, the legislative requirements are set out in the Building Regulations Approved Documents (and the equivalents for Scotland, Northern Ireland and Ireland).* The overriding driver for thermal regulation is European legislation in the form of the Energy Performance of Buildings Directive (EPBD). Other documents, such as Building Bulletins (education) or technical design manuals (health) provide methodologies for achieving the statutory requirements and therefore provide ways of meeting the Regulations.

For more information, call Knauf Technical Services on 01795 416259.

* As of 2011, the Welsh Assembly has powers to set Building Regulations for Wales. The Approved Documents current on 31 December 2011 will continue to apply to Wales, but the Welsh Assembly will review their content and specifications. In particular, it is undertaking a review of schedule 1 part 1 to the Building Regulations 2010.

The information on pages 287–307 applies only to the Building Regulations as published by the Department of Communities and Local Government (DCCLG). 2013 sees several sets of changes to the Building Regulations in England. The first set, coming into force on 6 April 2013, is intended to reduce the burden of regulation on the construction industry, and includes changes to Parts B, K, M and P. A further change takes place on 1 July 2013 when the European Construction Products Regulations 2011 come into force and the guidance to Regulation 7 will be aligned with them.

Always consult the most recent version of the Building Regulations and related documents.

Sector-specific changes to guidance and supporting documents:

Education: “Acoustic performance standards for the priority schools building programme”, published in September 2012, should be used in place of Section 1 of the Building Bulletin 93 as the acoustic performance standards for the Priority Schools.

Building Programme (PSBP): For the purposes of Building Regulations submissions, any variations from the existing PSBP should be taken as Alternative Performance Standards approved by the Education Funding Agency for this programme.

Healthcare: Health Technical Memorandum 08-01 has been superseded by Acoustics: Technical design manual.

Generate specifications at www.knauf.co.uk
Residential: Thermal

Knauf wall lining and dry lining systems can incorporate wide ranges of insulation types and thicknesses to minimise heat loss from buildings and thermal transmission from warm to cold areas. Knauf systems will help:

- Minimise heat loss
- Achieve high levels of thermal efficiency
- Maximise internal space
- Achieve Part L and Code for Sustainable Homes compliance

Approved Document L1A

The Energy Performance of Buildings Directive (EPBD) requires a calculation method that adopts a ‘whole building’ approach to energy performance. The 2009 edition of the Standard Assessment Procedure (SAP 2009) applies from October 2010 for compliance with building regulations in England & Wales (Part L) and in Scotland (Section 6). Similar provisions will be made in Northern Ireland at a later date. The Reduced Data SAP (RdSAP) applies to all EPCs produced from 1 April 2012 in England, Wales and Northern Ireland, and from 1 October 2012 in Scotland. The revised EPCs support the Green Deal, introduced in England, Wales and Scotland in October 2012. The SAP worksheet and specification can be downloaded from www.bre.co.uk/sap2009.

In addition, there is greater emphasis on ensuring that the building construction meets the standards assumed at the design stage and that the heating and hot water systems are correctly commissioned.

Absolute criteria

The SAP calculates the dwelling’s energy performance in terms of carbon dioxide (CO₂) emissions per m² per year for heating, hot water, ventilation and lighting.

The SAP calculation tool allows the designer a high degree of flexibility in deciding how to achieve the required energy target. However, the Approved Document does set certain limits. These include:

- Limiting U-values
- A limit of 10 m³/(h.m²) @ 50 Pa for air permeability
- The use of an appliance with an efficiency not less than that recommended for its type in the Domestic Heating Compliance Guide.

How to comply

Calculating CO₂ emissions for proposed building: The predicted rate of carbon dioxide emissions from the dwelling, the Dwelling Emission Rate (DER), should not be greater than the Target Emission Rate (TER).

How to comply: Using the SAP, the CO₂ emission rate is calculated for a notional dwelling of the same size and shape as the proposed dwelling using a fixed set of criteria for the fabric heat loss, building services and fuel choice.

The resulting ‘notional’ CO₂ emission rate is equivalent to a gas heated dwelling insulated to Part L standards for 2002.

The DER is arrived at by reducing the national CO₂ emission rate by 20% and making an allowance for any change in the main heating fuel, using the ‘fuel factor’ (Part L1A Table 1, page 16). The SAP calculation is repeated, but this time inserting the proposed U-values, building services, fuels and low or zero carbon energy sources for the proposed building. This produces the DER. If the DER of the proposed building is less than the TER, the first criteria has been achieved.

Other criteria

Design limits: The designer and constructor must show that the thermal performance of the building fabric and the heating, hot water and lighting systems are within the design limits in the Approved Document.

Limiting solar gains in summer: The designer and constructor must show that provision has been made to prevent high internal temperatures due to excessive solar gains.

Quality of construction and commissioning of building services: The designer and constructor must demonstrate that the quality of construction has been achieved by adopting Accredited Details and undertaking an air pressure test to confirm the specified design air permeability has been achieved. Provide a notice declaring that the building services have been inspected, tested and commissioned and are in accordance with the proposed building design.

Providing information: Provide operating and maintenance instructions to enable the building and its services to be operated in an energy efficient manner.

Approved Document L1B

The Approved Document for existing dwellings keeps an elemental method of demonstrating compliance, although in some cases there is an option to use the SAP calculation method. This will show that the overall energy performance of the whole extended or altered building is no worse than it would be if the elemental method were used.

There is also more emphasis than before on ensuring that the construction meets the thermal standards established at the design stage and that the heating and hot water systems are correctly commissioned. The guidance is set out in relation to three main classes of building work:

- Extensions to existing dwellings, including conservatories
- Dwellings created as a result of a material change of use
- Thermal upgrading as part of material alterations.

For each of these classes of work, the Approved Document gives relevant energy efficiency standards for:

- New thermal elements
- Replacement thermal elements
- Renovated thermal elements
- Retained thermal elements
- Controlled fittings (glazed elements)
- Controlled services.

Northern Ireland

Technical Standard F1: This document is designed to mirror the requirements of England and Wales, with minor changes to reflect the predominant fuel types used.

Scotland

Domestic Technical Handbook Section 6: Energy: The four criteria set out below describe the process the designer and builder must go through to show compliance. The SAP is used to calculate a Target Emission Rate (TER) for a ‘notional dwelling’ of exactly the same size and shape as the proposed dwelling and assuming a fixed package of measures.

1. Calculating the CO₂ emissions for the proposed building. The calculated rate of CO₂ emissions from the dwelling (the Dwelling Emission Rate (DER)) should not be greater than the TER.

2. Design ‘back stops’. Show that the thermal performance of the building fabric and the heating, hot water and lighting systems are within the design limits in the Technical Handbook.

3. Written information: Provide operating and maintenance instructions to enable the building and its services to be operated in an energy efficient manner.

4. Energy Performance Certificate (EPC): Every new dwelling should have an EPC. The Technical Handbook lists all the information that should be included on the Certificate. It should be permanently affixed to the dwelling, in a prominent place.

Ireland

Technical Guidance Document L – Conservation of fuel and energy – dwellings: Where works are carried out in accordance with the TGDs, this will indicate compliance with the Regulations. The adoption of an approach different to the TGDs is not prohibited, provided that the approach meets the requirements of the Regulations.

Generate specifications at www.knauf.co.uk

288 Residential: Thermal
Residential: Thermal

The Code for Sustainable Homes
The Code for Sustainable Homes has been introduced to drive a step-change in sustainable home building practice. It is a standard for key elements of design and construction which affect the sustainability of a new home.

In England and Wales, it will become the single standard for sustainable homes, used by home designers and builders as a guide to development, and by home buyers to assist in their choice of home.

It forms the basis for future developments of the Building Regulations in relation to carbon emissions from energy use in homes, therefore offering greater regulatory certainty to developers. In this era of environmental awareness among consumers and increasing demand for a more sustainable product, it will offer a tool for developers to differentiate themselves.

The Code for Sustainable Homes will progressively introduce a star rating system from 2006–16. More stars denote better sustainability. Designers will be required to achieve increasingly stringent criteria to reach each level of the Code’s requirements. The points system integrates energy and water usage as well as other key sustainability criteria.

Green Guide ratings
The BRE Green Guide to Specification publishes (online) a wide range of construction specifications along with the relative environmental performance of these specs and the materials used within them.

The data is set out as an A+ to E ranking system, where A+ represents the best environmental performance/least environmental impact, and E the worst environmental performance/most environmental impact.

In the ‘domestic/internal wall/framed partition’ category, all constructions using Knauf plasterboard have an ‘A+’ or ‘A’ rating.

Full details can be found at: www.thegreenguide.org.uk. Knauf offer comprehensive guidance on the design of systems to achieve required Green Guide ratings.

Achieving higher Code ratings with Knauf
Knauf offer ranges of systems able to provide high levels of acoustic and thermal insulation. These contribute towards achieving the Code’s reduced target emission rates and to its ‘quality of life’ requirements. Products such as our space-saving and thermally efficient laminates and Brio dry floor screed – thermally transparent to maximise underfloor heating efficiency – can both maximise internal space creation requirements (habitability) and help meet specific Code levels for thermal efficiency.

Achieving a sustainability rating: target standards†

<table>
<thead>
<tr>
<th>Code level</th>
<th>Energy</th>
<th>Water</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maximum % reduction in dwelling emission rate over target emission rate</td>
<td>Maximum potable water consumption in litres per day</td>
</tr>
<tr>
<td>1 (BR)</td>
<td>0 (Compliance with Part L 2010 only is required)</td>
<td>120</td>
</tr>
<tr>
<td>2 (BR)</td>
<td>0 (Compliance with Part L 2010 only is required)</td>
<td>120</td>
</tr>
<tr>
<td>3 (BRQ)</td>
<td>0 (Compliance with Part L 2010 only is required)</td>
<td>105</td>
</tr>
<tr>
<td>4 (BRQQ)</td>
<td>23</td>
<td>105</td>
</tr>
<tr>
<td>5 (BRQQQ)</td>
<td>100</td>
<td>80</td>
</tr>
<tr>
<td>6 (BRQQQQ)</td>
<td>Net Zero CO₂ emissions</td>
<td>80</td>
</tr>
</tbody>
</table>

† This table is derived from Tables 1.2 and 1.3 (page 10) of The Code for Sustainable Homes Technical Guide (November 2010 edition).

Generate specifications at www.knauf.co.uk
Residential: Acoustic

Our range of residential partition systems are designed to meet the acoustic requirements of the regulations while being robust and easy and fast to install, using the minimum number of components.

Use Knauf Isolator partitions to create separating floors using dry construction techniques, see page 60.

Use Knauf Easybuild to economically construct internal residential partitions that meet all the relevant performance requirements, see page 42.

Approved Document E
Part E Regulations focus on four main areas:

E1: Protection against sound from other parts of the building and adjoining buildings
E2: Protection against sound within a dwelling house etc., including separating and internal walls and floors
E3: Reverberation in the common internal parts of buildings containing flats or rooms for residential purposes
E4: Acoustic conditions in schools.

There are two routes to compliance (in England and Wales) as set out below.

Performance standards for separating walls, floors and stairs with separating floors/stairs with separating

Robust details

Robust Details are an alternative to constructions that require pre-completion sound testing in England and Wales.

- Pre-approved details achieving sound insulation standards higher than those required by Part E
- For new build houses and new build apartments only.
- No pre-completion testing required.

The main benefit of using Robust Details is that there is no need to carry out pre-completion sound testing. This eliminates the risk and uncertainty of remedial action being required on completed separating walls and floors, which may lead to potential delays in completing the property.

The Robust Details are designed to achieve higher sound insulation standards than the minimum requirements in Part E. Each approved Robust Detail contains a checklist which must be completed on site. This is a quality control check to confirm that all the critical elements that affect sound performance have been built correctly.

Robust Details are administered by Robust Details Ltd. Every dwelling built using Robust Details needs to be registered with Robust Details Ltd and a plot registration fee paid. Further information on the Robust Details scheme is available on the Robust Details website: www.robustdetails.com

All floating floor and ceiling treatments for separating floors, where stipulated, are to have a proven level of performance from laboratory tests before they can be used in a Robust Detail.

Pre-completion testing

Part E calls for sample pre-completion testing of separating walls and floors prior to handover. The testing is required to ensure that the level of performance specified in Part E is being achieved.

- For all new build, refurbishment, remedial and extension work in buildings with rooms for residential purposes
- Minimum of 1 in 10 dwellings of same type to be tested
- Details designed to meet or exceed requirements of Part E

Pre-completion sound insulation tests should be carried out by independently accredited organisations.

A minimum of one in every ten dwellings of the same dwelling type are required to be tested prior to completion. Depending on the mix of dwelling types in a development, testing will usually be required on 10–30% of the units.

Tests should be conducted in completed but unfurnished rooms or available spaces in the case of properties sold before fitting out.

Existing buildings: Where dwellings are created by the material change of use of an existing dwelling, the only way to comply with the requirements of Part E is to carry out pre-completion testing to prove the acoustic performance of the acoustic separating building elements. For this type of work slightly lower standards of performance are required than for new build.

Northern Ireland
Technical Standards G and G1: There are 3 routes to compliance:
1 Constructions specified in Technical Standards G and G1
2 Performance testing to show compliance with standards
3 Repeat constructions: duplicate constructions that have been shown to comply elsewhere.

Performance standards

<table>
<thead>
<tr>
<th>Airborne sound insulation Dn,w + Ctr dB*</th>
<th>Impact sound insulation L'nT,w dB*</th>
</tr>
</thead>
<tbody>
<tr>
<td>mean value</td>
<td>individual value</td>
</tr>
<tr>
<td>Separating walls</td>
<td>53</td>
</tr>
<tr>
<td>Separating floors</td>
<td>52</td>
</tr>
</tbody>
</table>

* As defined in BS EN ISO 717: 1997 and BS EN 717-2: 1997
† Table derived from Technical Standard G, 1995

Scotland
Technical Handbook Section 5. There are 2 routes to compliance:
1 Constructions specified in Technical Handbook Section 5
2 Performance testing to show compliance with standards.

Performance standards

<table>
<thead>
<tr>
<th>Airborne sound insulation Dn,w + Ctr dB*</th>
<th>Impact sound insulation L'nT,w dB*</th>
</tr>
</thead>
<tbody>
<tr>
<td>mean value</td>
<td>individual value</td>
</tr>
<tr>
<td>Separating walls</td>
<td>53</td>
</tr>
<tr>
<td>Separating floors</td>
<td>52</td>
</tr>
</tbody>
</table>

* As defined in BS EN ISO 717: 1997 and BS EN 717-2: 1997
† Table derived from Technical Handbook – Domestic, 2001, section 5

Ireland
Technical Guidance Document E & Sound: Where works are carried out in accordance with the TGDs, this will indicate compliance with the Regulations. The adoption of an approach different to the TGDs under the ‘Similar constructions’ heading is not prohibited, provided that the approach meets the requirements of the Regulations.

Generate specifications at www.knauf.co.uk
Building systems incorporating plasterboard can help meet the requirements of Part B of the Building Regulations by providing surfaces that minimise fire spread, by the creation of compartments that limit the progress of smoke and flames, and by helping to maintain the structural integrity of the structure as a whole.

**Knauf systems offer:**
- Fire resistance up to 120 minutes
- Wide range of compartmentation options
- Peace of mind with comprehensive full-system testing

**Approved Document B**
The various parts of the Approved Document set out the following objectives:

- **B1** – To ensure the correct design, construction and provision of means of escape for persons in the event of a fire

- **B2** – To ensure, through appropriate construction and workmanship, that fire spread over the internal linings of buildings is inhibited

- **B3** – To ensure the stability of buildings in the event of fire by creating separated compartments within buildings to inhibit internal spread of fire. To create sufficient and effective separation between adjoining buildings. To inhibit unseen spread of smoke and fire via concealed spaces within buildings.

**Part B2 – Internal fire spread (linings):** To inhibit the spread of fire within the building, the internal linings shall:

- Adequately resist the spread of flame over their surfaces
- Have, if ignited, either a rate of heat release or a rate of fire growth, which is reasonable in the circumstances.

The above can be achieved by selection of materials, such as Knauf plasterboard, that have low rates of surface spread of flame. It is also beneficial for material to have a low rate of heat release, minimising the material’s contribution to fire growth.

These qualities are particularly important in circulation or communal spaces, where it will often be the linings that must minimise the spread of flame to give the occupants more escape time.

**Part B3 – Internal fire spread (structure):**

- The building shall be designed and constructed so that, in the event of fire, its stability will be maintained for a reasonable period.

**Compartmentation in dwellings**

Sub-dividing dwellings into separate fire-resisting compartments is critical to the ability of the structure as a whole to prevent rapid fire spread and minimise the size of fire. Again, the overriding aim is to save lives and minimise destruction.

Knauf plasterboard systems are an effective method of achieving compartmentation in dwellings.

The Building Regulations include provisions which state that:

**Provision of compartmentation**

- Every wall separating semi-detached houses, or houses in terraces, should be constructed as a compartment wall, and the houses should be considered as separate buildings
- If a domestic garage is attached to (or forms an integral part of) a house, the garage should be separated from the rest of the house by providing 30 minutes fire resistance to any wall and floor between garage and house.

**Construction of compartmentation:** Every compartment wall and compartment floor should:

- Form a complete barrier to fire between the compartments they separate
- Have the appropriate fire resistance as indicated in AD B Appendix A, Tables A1 and A2, pages 59 and 60.

### Minimum periods of fire resistance for dwellings

<table>
<thead>
<tr>
<th>Minimum periods (minutes) for elements of structure in as:</th>
<th>Basement</th>
<th>Ground or upper storey height of top floor above ground</th>
<th>Ground or upper storey height of top floor above ground</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basement storey including floor over 1 basement</td>
<td>30</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>Ground or upper storey height of top floor above ground</td>
<td>30</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>Not more than 5m in height of top floor above ground</td>
<td>30</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>More than 5m in height of top floor above ground</td>
<td>30</td>
<td>60</td>
<td>60</td>
</tr>
</tbody>
</table>

**Northern Ireland**

Technical Booklet E Fire Safety: This document covers both dwellings and non-dwellings.

**Sections** 2 and 3 deal with internal fire spread to linings and structure, respectively.

**Scotland**

Technical Handbook (Domestic), Section 2: Fire This Handbook covers new build work and work to existing dwellings.

**Fire Section 2.3: Structural protection**

- Fire Section 2.4: Cavities
- Fire Section 2.5: Internal linings

**Ireland**

Technical Guidance Document B – Fire safety: The Technical Documents, commonly known as TGDs, give guidance on how to construct a building so that it complies with the Regulations. Where works are carried out in accordance with the TGDs, this will indicate compliance with the Regulations. Sections B2 and B3 deal with ‘internal fire spread (linings)’ and ‘internal fire spread (structure),’ respectively.

To generate specifications, visit www.knauf.co.uk
Knauf systems offer:

• Simple to achieve Part L2A and B compliance
• Brio dry floor screed to maximise underfloor heating efficiency
• Simple, efficient construction processes to maximise thermal integrity

Approved Document L2A (new buildings)
The Approved Document covers all types of non-domestic building. The Energy Performance of Buildings Directive (EPBD) requires a calculation method that adopts a whole building approach to energy performance. The Simplified Building Energy Model (SBEM) has been developed for Approved Document L2A that meets this requirement. The SBEM programme and user guide can be downloaded from www.ncm.bre.co.uk.

In addition, there is greater emphasis on ensuring that the building construction meets the standards assumed at the design stage and that the building services are correctly commissioned.

The SBEM
The SBEM is a computer programme that provides an analysis of a building’s energy consumption. It is based on a set of CEN standards and has been developed in order to comply with the EPBD. The first approved version of SBEM was issued in December 2005. The latest version can be downloaded for free from www.ncm.bre.co.uk.

How to comply: Points 1–3 below outline the process the designer and builder must go through to show compliance. The SBEM calculates the building’s energy performance in terms of carbon dioxide (CO2) emissions per m2 per year for heating, cooling, hot water, ventilation systems and lighting.

1 Calculate the Target Emission Rate (TER): Approved software, such as the SBEM, will automatically generate the CO2 emission rate of the national building* from the information input.

   The TER is arrived at by applying an improvement factor and a LZC (low or zero carbon energy source) benchmark factor to the CO2 emission rate for the national building.

   The SBEM or other approved software will automatically generate the TER using the improvement factor and LZC benchmark.

2 Calculate the Building CO2 Emission Rate (BER) for the proposed building: This is calculated using the same software programme as for the national building, but using the actual U-values, air permeability, building services, fuels and any LZC energy sources to be used in the proposed building. A fuel factor is applied if mains gas is not used as the main fuel in the proposed building.

   The SBEM automatically calculates the BER and takes account of the fuel factor, where relevant. The BER must be no worse than the calculated TER.

3 Additional compliance criteria: As well as ensuring the CO2 emission rate for the building is within target, the AD lists four additional criteria that must be met to achieve compliance:

   Design limits: Show that the thermal performance of the building fabric and building services are within the design limits set out in the Approved Document.

   Limiting solar gains in summer: Where buildings are not provided with air conditioning, show that suitable measures have been taken to control excessive solar gains.

   As well as ensuring the CO2 emission rate for the building is within target, the AD lists four additional criteria that must be met to achieve compliance:

   Design limits: Show that the thermal performance of the building fabric and building services are within the design limits set out in the Approved Document.

   Limiting solar gains in summer: Where buildings are not provided with air conditioning, show that suitable measures have been taken to control excessive solar gains.

   The notional building must be the same size and shape as the actual building as described in AD B, section 1.2.2.

Quality of construction, inspection and commissioning of building services: All buildings must undergo an air pressure test to confirm the specified design air permeability of the building has been achieved.

Provide a notice declaring that the building services have been inspected, tested and commissioned and are in accordance with the proposed building design.

Providing information: Provide a building log book to enable the building owner to operate and maintain the building.

Approved Document L2B (existing buildings)
The Approved Document retains an elemental method of demonstrating compliance, although in some cases there is an option to use the SBEM calculation method to show that the overall energy performance of the whole new or altered building is no worse than it would be if the elemental method were used. In addition, for extensions, it is possible to use a weighted U-value calculation to take into account the different elements of the construction.

The guidance is set out in relation to three classes of building work:

• Extensions to existing buildings, including conservatories
• Buildings created as a result of a material change of use
• Thermal upgrading as part of material alterations.

For each of these classes of work the Approved Document gives relevant energy efficiency standards for:

• New thermal elements
• Replacement thermal elements
• Renovated thermal elements
• Retained thermal elements
• Controlled fittings (glazed elements)
• Controlled services.

Northern Ireland
Technical Standard F2: Section 2 covers the regulations for new buildings other than dwellings. Section 3 covers the regulations for existing buildings other than dwellings.

Scotland
Non-domestic Technical Handbook Section 6: Energy. These Handbooks cover new build work and work to existing dwellings.

Ireland
Technical Guidance Document L – Conservation of fuel and energy. The Technical Documents, commonly known as TGDs give guidance on how to construct a building so that it complies with the Regulations. Where works are carried out in accordance with the TGDs, this will indicate compliance with the Regulations. The adoption of an approach different to the TGDs is not prohibited, provided that the approach meets the requirements of the Regulations.

Generate specifications at www.knauf.co.uk

Commercial: Thermal

We offer a range of fast, easy to design and easy to install systems to provide increased thermal efficiency for all non-residential buildings.
## Commercial: Fire

Designing-in the specific fire-resisting characteristics of products such as Knauf Fire Panel and systems such as Knauf Shaftwall, ensure the requirements of Part B are met and defined levels of fire resistance for differing zones of usage are achieved.

### Knauf systems offer:
- Specifiable fire-resisting periods from 30 to 120 minutes
- Fire-rated solutions for partitions, linings, ceilings, floors, shafts and encasements

### Approved Document B

Among the provisions in the Approved Document are the following:

B1 – To ensure the correct design, construction and provision of means of alarm and escape for persons in the event of a fire

B2 – To ensure, through appropriate construction and workmanship, that firespread over the internal linings of buildings is inhibited

### Other considerations

Below are some key elements relating specifically to non-residential construction:

**Concealed spaces (cavities):** Concealed spaces or cavities in the construction of a building provide a route for smoke and flame spread. This is particularly so in the case of voids above other spaces in a building e.g. above a suspended ceiling or in a roof space. As any spread is concealed it presents a greater weakness in the fabric of the building.

Provisions are made to restrict this by interrupting cavities which could form a pathway around a barrier to fire, sub-dividing extensive cavities, and by closing the edges of openings.

### Minimum periods of fire resistance

#### Table: Minimum periods of fire resistance

<table>
<thead>
<tr>
<th>Purpose group of building</th>
<th>Minimum periods (minutes) for elements of structure in ac:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Basement storey† including floor over depth (m) of a lowest basement</td>
</tr>
<tr>
<td></td>
<td>Ground or upper storey height (m) of any floor above ground in a building or separated part of a building</td>
</tr>
<tr>
<td>Office</td>
<td>Not sprinklered</td>
</tr>
<tr>
<td></td>
<td>90 60</td>
</tr>
<tr>
<td>Sprinklered†</td>
<td>60 60</td>
</tr>
<tr>
<td>Assembly and recreation:</td>
<td>Not sprinklered</td>
</tr>
<tr>
<td></td>
<td>90 60</td>
</tr>
<tr>
<td>Sprinklered†</td>
<td>60 60</td>
</tr>
<tr>
<td>Storage and other non-residential, any building or part not described elsewhere</td>
<td>Not sprinklered</td>
</tr>
<tr>
<td></td>
<td>120 90</td>
</tr>
<tr>
<td>Sprinklered†</td>
<td>60 60</td>
</tr>
<tr>
<td>Car park for light vehicles</td>
<td>Open-sided car park†</td>
</tr>
<tr>
<td></td>
<td>n/a n/a</td>
</tr>
<tr>
<td>Any other car park</td>
<td>90 60</td>
</tr>
</tbody>
</table>

† The above table is derived from Part B vol 2, Table A2, page 124

### Northern Ireland

- **Technical Standard F2:** Section 2 covers the regulations for new buildings other than dwellings. Section 3 covers the regulations for existing buildings other than dwellings.

### Scotland

- **Non-domestic Technical Handbook Section 6:**
  - Energy: These Handbooks cover new build work and existing dwellings.

### Ireland

**Technical Guidance Document L – Conservation of fuel and energy:***

- The Technical Documents, commonly known as TGDs give guidance on how to construct a building so that it complies with the Regulations. Where works are carried out in accordance with the TGDs, this will indicate compliance with the Regulations. The adoption of an approach different to the TGDs is not prohibited, provided that the approach meets the requirements of the Regulations.

### Protected shafts

- Openings in floors for stairways, lifts, escalators and pipes and ducts should be enclosed in a protected shaft, which has the same period of fire resistance (integrity, insulation and, where applicable, load-bearing capacity) as the compartment floor.

- Protected shafts for stairways and lifts should be provided with protected lobbies, except where they are accessed from the street.

Knauf Shaftwall and Firefighting Shaftwall provide up to 120 minutes fire resistance and can be constructed totally from one side, making them ideal for lift and service shaft constructions.

### Ventilation ductwork

- Ventilation should comply with the requirements of Section 10 of Approved Document B.

- **External walls:** The requirement is for sufficient fire resistance to prevent fire spread across the relevant boundary. If an external wall is more than 1 metre from the relevant boundary, the wall only needs fire resistance from inside.

### Generate specifications at www.knauf.co.uk
Education: Acoustic

Educational establishments have wide-ranging acoustic requirements, often with large differenitals between adjacent rooms. Knauft systems have the design and performance flexibility to accommodate these differing requirements without compromise on installation or layout efficiency.

Knauft systems offer acoustic-specific products and systems for sound reduction and reverberation control.

Relevant regulations and guidelines
Section 8 of Part E of the Building Regulations covers acoustic conditions in school buildings. Requirement E4 from Part E of the Building Regulations states that “Each room or other space in a school building shall be designed and constructed in such a way that it has the acoustic conditions and the insulation against disturbance by noise appropriate to its intended use.”

The usual route to compliance is by meeting the performance standards set out in Building Bulletin 93: Acoustic design of schools – a design guide (also referred to as BB93).

There is a consensus that low ambient noise levels are required in the teaching environment, particularly in view of the ‘Special Educational Needs and Disability Act’ 1991 (updated in 2001) (now part of the Disability Act) which includes the inclusion of children with special needs within mainstream schools.

Many school rooms provide inadequate acoustics for their intended function because of their age, poor design and planning, inefficient sound insulation, or multi-purpose functionality.

“Acoustic performance standards for the priority schools building programme”, published in September 2012, should be used in place of Section 1 of the Building Bulletin 93 as the acoustic performance standards for the Priority Schools Building Programme (APSPS).

Acoustic performance standards for the priority schools building programme (APSPS)

The normal way of satisfying Requirement E4 of the Building Regulations is to meet the performance standards given in BB93, Table 1.2 and the latest acoustic performance standards for the priority schools building programme (APSPS).

Further information:
Our dedicated Education brochure is available free, upon request. Please telephone 07800 613700 to request a copy, or download from our website: www.knauf.co.uk

### Further information:

<table>
<thead>
<tr>
<th>Room type</th>
<th>Activity noise in source room</th>
<th>Activity noise in receiving room</th>
<th>Minimum</th>
<th>Performance standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursery school playrooms</td>
<td>High</td>
<td>High</td>
<td>40</td>
<td>Average</td>
</tr>
<tr>
<td>Nursery school quiet rooms</td>
<td>High</td>
<td>Low</td>
<td>35</td>
<td>Average</td>
</tr>
<tr>
<td>Primary school classrooms and areas</td>
<td>Average</td>
<td>Low</td>
<td>35</td>
<td>Average</td>
</tr>
<tr>
<td>Secondary school classrooms and general areas</td>
<td>Average</td>
<td>Low</td>
<td>35</td>
<td>Average</td>
</tr>
<tr>
<td>Open plan teaching areas1</td>
<td>Average</td>
<td>Medium</td>
<td>40</td>
<td>Average</td>
</tr>
<tr>
<td>Open plan non-teaching areas1</td>
<td>Average</td>
<td>Medium</td>
<td>40</td>
<td>Average</td>
</tr>
<tr>
<td>Music classrooms</td>
<td>Very high</td>
<td>Low</td>
<td>25</td>
<td>Average</td>
</tr>
<tr>
<td>Small practical/group rooms</td>
<td>Very high</td>
<td>Low</td>
<td>35</td>
<td>Average</td>
</tr>
<tr>
<td>Ensemble rooms</td>
<td>Very low</td>
<td>Very low</td>
<td>30</td>
<td>Average</td>
</tr>
<tr>
<td>Performance/visual arts room</td>
<td>Very high</td>
<td>Low</td>
<td>30</td>
<td>Average</td>
</tr>
<tr>
<td>Recording studios2</td>
<td>Very high</td>
<td>Very low</td>
<td>30</td>
<td>Average</td>
</tr>
<tr>
<td>Control room for recording</td>
<td>High</td>
<td>Low</td>
<td>35</td>
<td>Average</td>
</tr>
<tr>
<td>Small lecture room (fewer than 50 people)</td>
<td>Average</td>
<td>Low</td>
<td>35</td>
<td>Average</td>
</tr>
<tr>
<td>Large lecture room (more than 50 people)</td>
<td>Average</td>
<td>Very low</td>
<td>30</td>
<td>Average</td>
</tr>
<tr>
<td>Classrooms for use by hearing impaired pupils</td>
<td>Average</td>
<td>Very high</td>
<td>30</td>
<td>Average</td>
</tr>
<tr>
<td>Study room (individual study, remedial work, etc.)</td>
<td>Low</td>
<td>Low</td>
<td>35</td>
<td>Average</td>
</tr>
<tr>
<td>Libraries: Quiet study areas</td>
<td>Low</td>
<td>Low</td>
<td>35</td>
<td>Average</td>
</tr>
<tr>
<td>Resource areas</td>
<td>Average</td>
<td>Medium</td>
<td>40</td>
<td>Average</td>
</tr>
<tr>
<td>Science laboratories</td>
<td>Average</td>
<td>Medium</td>
<td>40</td>
<td>Average</td>
</tr>
<tr>
<td>Drama studios</td>
<td>Average</td>
<td>Medium</td>
<td>30</td>
<td>Average</td>
</tr>
<tr>
<td>Design and technology</td>
<td>Average</td>
<td>Medium</td>
<td>40</td>
<td>Average</td>
</tr>
<tr>
<td>Resistant materials/CAD/CAM areas</td>
<td>High</td>
<td>High</td>
<td>40</td>
<td>Average</td>
</tr>
<tr>
<td>Electronic/controls/telecoms, etc.</td>
<td>High</td>
<td>Average</td>
<td>40</td>
<td>Average</td>
</tr>
<tr>
<td>Air/ventilation spaces</td>
<td>Average</td>
<td>Medium</td>
<td>40</td>
<td>Average</td>
</tr>
<tr>
<td>Assembly/multi-purpose halls (PE, drama, audio/visual presentations, occasional music, assembly)</td>
<td>High</td>
<td>Low</td>
<td>35</td>
<td>Average</td>
</tr>
<tr>
<td>Audio/visual/conference areas</td>
<td>Average</td>
<td>Low</td>
<td>35</td>
<td>Average</td>
</tr>
<tr>
<td>Art, pupil circulation spaces</td>
<td>Average</td>
<td>Medium</td>
<td>40</td>
<td>Average</td>
</tr>
<tr>
<td>Indoor sports hall</td>
<td>Average</td>
<td>Medium</td>
<td>40</td>
<td>Average</td>
</tr>
<tr>
<td>Dance studio</td>
<td>Average</td>
<td>Medium</td>
<td>40</td>
<td>Average</td>
</tr>
<tr>
<td>Gymnasium</td>
<td>Average</td>
<td>Medium</td>
<td>40</td>
<td>Average</td>
</tr>
<tr>
<td>Swimming pool</td>
<td>Average</td>
<td>High</td>
<td>50</td>
<td>Average</td>
</tr>
<tr>
<td>Interchange/consulting/medical rooms</td>
<td>Average</td>
<td>Low</td>
<td>35</td>
<td>Average</td>
</tr>
<tr>
<td>Dining rooms</td>
<td>Average</td>
<td>High</td>
<td>45</td>
<td>Average</td>
</tr>
<tr>
<td>Kitchenette</td>
<td>High</td>
<td>High</td>
<td>50</td>
<td>Average</td>
</tr>
<tr>
<td>Office, staff rooms1</td>
<td>Average</td>
<td>Medium</td>
<td>40</td>
<td>Average</td>
</tr>
<tr>
<td>Corridor, stairways</td>
<td>Average</td>
<td>High</td>
<td>45</td>
<td>Average</td>
</tr>
<tr>
<td>Costs and changing areas2</td>
<td>High</td>
<td>High</td>
<td>45</td>
<td>Average</td>
</tr>
<tr>
<td>cloakroom</td>
<td>Average</td>
<td>Medium</td>
<td>40</td>
<td>Average</td>
</tr>
</tbody>
</table>

* Teaching can be disrupted by individual noisy events, even where the noise level is below the above limits. For rooms requiring 35 dB or less, the noise level should not regularly exceed 30 dB Aeq for 30 min. For other rooms the performance standards for all grades are given only.

1 Acoustic considerations of open-plan areas are complex. A specialist acoustic consultant should be consulted.

2 Extansions require specialist acoustic ventilation and the noise limits for these will vary with the type of room and type of source.

3 Hall can only meet the functional requirements in primary school. The designer should design to the lower indoor ambient source levels for which the space is likely to be used.

4 This table is derived from BB93, Table 1.2, page 10.
The ultimate objective of the regulations is first to protect the lives of occupants, emergency workers and those passing by or engaged in activities near to the building in question and, second, to try to minimise structural damage.

Knauf systems offer:
• Minimise surface spread of flame
• Contain fire in discrete compartments
• Help maintain the structural integrity of the building

Approved Document B
Among the provisions in the Approved Document are the following:
• B1: Means of warning and escape
• B2: Internal fire spread (linings)
• B3: Internal fire spread (structure)
• B4: External fire spread.

Fire considerations for education
The design of fire safety in schools is covered by Building Bulletin 100 – Design for fire safety in schools (also referred to as BB 100) published by the DfES. Part B of the Building Regulations will typically be satisfied where the guidance in that document is followed.

Fire resisting and smoke restricting construction
BB 100 recognises that it is important to restrict spread of fire so the normal working of the school can be resumed as soon as possible, minimising the harm to children’s life chances when their school is destroyed by fire. At 1 metre from the relevant boundary, the wall only needs fire resistance from inside.

Places of special fire hazard: These areas need special consideration as they may either be High Hazard, i.e., the source of ‘hot’ activities such as contributing to a high risk area, or may represent a valuable resource that is difficult to replace.

Knauf systems can be used in all of these areas to provide up to 120 minutes fire resistance.

Places of special fire hazard that require additional protection include the following:
• Boiler rooms
• Storage space for fuel or other highly flammable substances (including PE mats) or chemicals
• Laboratories
• Technology rooms with open heat sources
• Kitchens
• Oil-filled transformer and switch-gear rooms
• Rooms housing a fixed internal combustion engine.

Cloakrooms should also be regarded as places of special fire hazard.

Knauf systems are tested together with Knauf Metal Studs and Fixings to give guaranteed periods of fire resistance as a complete system.

Knauf fire-resistant systems, designed in to escape routes, can help provide the necessary protection and compliance with Part B.

Protected shafts: Lift wells should be either:
(a) Contained within the enclosures of a protected stairway;
(b) Enclosed throughout their height with fire-resisting construction if they are sited so as to prejudice the means of escape.

Ducts passing through the enclosure of a protected escape route should be fire-resisting.

Knauf Shaftwall and Firefighting Shaftwall can be constructed totally from one side and are ideal for lift and service shaft constructions.

Internal fire spread (linings): Part B requires that linings:
(a) Adequately resist the spread of flame over their surfaces, and
(b) Have, if ignited, a rate of heat release or a rate of fire growth, which is reasonable in the circumstances.

The choice of lining materials for walls and ceilings can significantly affect the spread of a fire and its rate of growth, even though they are not likely to be the materials first ignited. It is particularly important in circulation spaces where linings may offer the main means by which fire spreads and where rapid spread is most likely to prevent occupants from escaping.

Northern Ireland
Technical Booklet E Fire Safety (2005): This document covers both dwellings and non-dwellings. Sections 2 and 3 deal with internal fire spread to linings and structure, respectively.

Ireland
Technical Guidance Document B – Fire safety: The Technical Documents, commonly known as TGDs, give guidance on how to construct a building so that it complies with the Regulations. Where works are carried out in accordance with the TGDs, this will indicate compliance with the Regulations. The adoption of an approach different to the TGDs is not prohibited, provided that the approach meets the requirements of the Regulations.
**Healthcare: Acoustic**

The acoustic requirements for hospitals can be extremely complex and demanding. Knauf have the expertise, design tools, products and systems to provide tailor-made and compliant solutions to meet HTM and Building Regulation requirements.

- **Specifically designed acoustic systems with added performance characteristics:** moisture resistance, impact resistance, etc.
- **Free design service**

Acoustics: Technical design manual, is a guidance document to help healthcare professionals better understand acoustic requirements and to help designers build facilities that meet these requirements. In practice, a specialist acoustic adviser should be involved from outline design onwards to ensure that the complex criteria are met holistically. Acoustics: Technical design manual recommends acoustic criteria for:

- Noise levels in rooms – both from mechanical services within the building and for noise coming from outside
- External noise levels
- Sound insulation between rooms – allows rooms with differing noise requirements to exist side by side
- Impact sound insulation
- Room acoustics
- Audio systems
- Audiology facilities
- Vibration caused by plant

The document supersedes all other guidance by the Department of Health on acoustics. It is always advisable to check for updates and corrections on-line.

**Internal sound insulation**

Appropriate sound levels should be set for each room so that for instance, noisy activities do not interfere with the need for quiet in adjacent rooms; nor should private conversations be ‘overhearnable’ from designated private rooms or areas.

**Acoustic requirements for partitions and floors**

The general parameters for these rooms and areas are set out in the Acoustics: Technical design manual, tables 3 (sound insulation parameters) and 4 (sound insulation ratings dB DnT,w) and specific sound insulating performance requirements for an extensive range of room types are set out in table 5 of that document.

‘Source’ rooms and ‘receiving’ rooms: Rooms in a healthcare environment may have three sets of acoustic criteria to which they must comply:

i) Privacy requirement as a source room
ii) Noise generation as a source room
iii) Sensitivity to incoming noise as a receiving room.

Key parameters and criteria from Acoustics: Technical design manual:

The document sets out a series of tables progressively covering performance requirements as follows:

- **Table 1 – Criteria for noise intrusion from external sources:** Sets out recommended allowable levels of noise intrusion for the completed building and covers rain noise, traffic noise, sirens etc.
- **Table 2 – Criteria for internal noise from mechanical and electrical services:** Sets out the recommended levels of noise for areas within the healthcare environment from services such as medical equipment, plantrooms, nurse-call systems etc.
- **Table 3 – Sound insulation parameters for rooms:**
  - **Table 3–1:** Generates specifications at www.knauf.co.uk
  - **Table 3–2:** Knauf system solutions for healthcare can help compliance
  - **Table 3–3:** Knauf products are tested as complete systems – plaster, plasterboard, metal sections and fixings, together – and give proven levels of acoustic performance for a very wide range of applications. Throughout this Manual you will find healthcare specific solutions developed through our years of experience working on the UK’s largest hospitals. Look for the healthcare icon.
In environments containing large numbers of infirm and immobile people, the ability of the fabric of those buildings to minimise fire risk, contain fire spread and maximise structural stability is absolutely paramount.

Knauf systems offer:
- Fire-resisting periods from 30–120 minutes
- Specialist products and systems such as steelwork encasements and linings to lift shafts
- Our Technical Services team can design bespoke solutions, compartmentation, communal areas, internal escape routes, etc.

Healthcare fire considerations
HMS 05-02 ‘Firecode – fire safety in the NHS’ is a code of practice that contains guidance and measures to satisfy all of the requirements of Approved Document B and applies to the full range of premises used for the provision of treatment or care - new, refurbishment, or change of use.

As fire safety is dependent not only on the physical fire precautions provided, HMS 05-02 also considers the fire safety implications of:
- The dependency of the patient
- Fire hazards within the hospital
- Management policies
- Availability of sufficient and adequately trained staff.

Where Knauf products can help with compliance
Means of escape: Healthcare establishments must be constructed so that there are appropriate means of escape in the event of a fire. This requires means of vertical and horizontal escape that are fire resistant and/or minimise heat release once ignited.

Internal fire spread (linings): In a similar fashion to means of escape, linings can inhibit the spread of fire within the building generally if they adequately resist the spread of flame over their surfaces. Additionally, they should, if ignited, have a rate of heat release that is suited to whichever area of the hospital they have been used for.

In both these areas of construction, Knauf products – plasterboards, metal components and fixings, tested together as complete systems – offer defined periods of fire resistance.

Compartmentation: Compartmentation is a form of construction used to help prevent the spread of fire to or from another part of the same building or an adjoining building. ‘Compartment’ floors or walls are fire-resisting constructions used to separate one fire compartment from another and require a minimum period of resistance of 60 minutes (30 minutes in single storey buildings).

Knauf systems are an ideal means of achieving a wide variety of compartment types with differing but defined periods of fire resistance along with other acoustic or thermal properties, if required.

Periods of fire resistance
The performance of those elements of the building that are required to achieve a specified period of fire resistance is determined by reference to BS 476:20–24: 1987.

## Specific periods of fire resistance for building elements

### Part of building  | Minimum provisions when tested to the relevant part of BS 476 Standard (minutes) | Minimum provisions when tested to the relevant European Standard (minutes) | Method of exposure
<table>
<thead>
<tr>
<th>Structured frame bases or columns</th>
<th>Load-bearing capacity</th>
<th>Integrity</th>
<th>Insulation</th>
<th>Load-bearing capacity</th>
<th>Integrity</th>
<th>Insulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compartments</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>REI 60</td>
<td>Each side separately</td>
<td>Exposed faces</td>
</tr>
<tr>
<td>Single-storey buildings</td>
<td>n/a</td>
<td>60</td>
<td>60</td>
<td>REI 60</td>
<td>Each side separately</td>
<td></td>
</tr>
<tr>
<td>Fire-resisting periods from 30–120 minutes</td>
<td>n/a</td>
<td>30</td>
<td>30</td>
<td>B 30</td>
<td>Each side separately</td>
<td></td>
</tr>
<tr>
<td>1 construction separating the shaft from the building</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>REI 60</td>
<td>From shaft side</td>
<td></td>
</tr>
<tr>
<td>2 construction separating fire-resisting lift shaft and fire-fighting lobby</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>REI 60</td>
<td>Each side separately</td>
<td></td>
</tr>
</tbody>
</table>

### Half the building

- **Healthcare: Fire**
  - Norwegian Technical Performer
  - Performance Table

<table>
<thead>
<tr>
<th>Hospital construction</th>
<th>Unsprinklered</th>
<th>Sprinklered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single-storey healthcare buildings</td>
<td>30 minutes</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Healthcare buildings with storage up to 12 m above ground</td>
<td>60 minutes</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Healthcare buildings with storage over 12 m above ground</td>
<td>90 minutes</td>
<td>60 minutes</td>
</tr>
<tr>
<td>Healthcare buildings with storage up to 30 m above ground</td>
<td>120 minutes</td>
<td>60 minutes</td>
</tr>
<tr>
<td>Healthcare buildings with storage over 30 m above ground</td>
<td>120 minutes</td>
<td>90 minutes</td>
</tr>
</tbody>
</table>

### Minimum periods of fire resistance for compartment walls

<table>
<thead>
<tr>
<th>Hospital construction</th>
<th>Unsprinklered</th>
<th>Sprinklered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single-storey healthcare buildings</td>
<td>30 minutes</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Healthcare buildings with storage up to 12 m above ground</td>
<td>60 minutes</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Healthcare buildings with storage over 12 m above ground</td>
<td>90 minutes</td>
<td>60 minutes</td>
</tr>
<tr>
<td>Healthcare buildings with storage up to 30 m above ground</td>
<td>120 minutes</td>
<td>60 minutes</td>
</tr>
</tbody>
</table>

### Specific periods of fire resistance for building elements

<table>
<thead>
<tr>
<th>Part of building</th>
<th>Minimum provisions when tested to the relevant part of BS 476 Standard (minutes)</th>
<th>Minimum provisions when tested to the relevant European Standard (minutes)</th>
<th>Method of exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structured frame bases or columns</td>
<td>Load-bearing capacity</td>
<td>Integrity</td>
<td>Insulation</td>
</tr>
<tr>
<td>Compartments</td>
<td>60</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>Single-storey buildings</td>
<td>n/a</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>Fire-resisting periods from 30–120 minutes</td>
<td>n/a</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>1 construction separating the shaft from the building</td>
<td>60</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>2 construction separating fire-resisting lift shaft and fire-fighting lobby</td>
<td>60</td>
<td>60</td>
<td>60</td>
</tr>
</tbody>
</table>

### Northern Ireland

- Technical Booklet E Fire Safety (2005): This document covers both dwellings and non-dwellings. Sections 2 and 3 deal with internal fire spread to linings and structure, respectively.

### Scotland


### Ireland

- Technical Guidance Document B – Fire Safety: The Technical Documents, commonly known as TGDs, give guidance on how to construct a building so that it complies with the Regulations. Where works are carried out in accordance with the TGDs, this will indicate compliance with the Regulations. The adoption of an approach different to the TGDs is not prohibited, provided that the approach meets the requirements of the Regulations.
Our Service to You

Quality
The Knauf Group is one of the largest drywall manufacturers in the world, with a group turnover in excess of €2.5 Billion. Still privately owned, with our head office in Germany, we pride ourselves on the quality of our products and our commitment to staff and customers - not shareholders. Knauf manufacture in the UK to EN 520, BS 1191 and BS EN ISO 9000 using advanced production facilities.

Our sites are ISO 14001 certified for environmental management.

Performance
Our systems use Knauf materials throughout – board, metal, insulation, plaster and accessories. All are manufactured to strict British and European Standards and are thoroughly independently tested together as complete, warranted systems. Fire, acoustic, robustness, longevity, and structural performance are all tested for the relevant application. Full details can be found online, or in this Manual.

Service – throughout the supply chain
As a specifier, you can benefit from friendly, expert technical advice from our Technical Service teams, our in-depth literature (including the RIBA CPD approved Design Partner Series) and our award-winning website (CAD downloads, interactive tools, system information and so on). Our commitment to service goes far deeper, though, extending throughout the supply chain to ensure that the delivery and installation process on-site is as smooth as possible.

Innovation
Can you still innovate in plaster and drywall systems? We believe so. Our fire and sound rated Aquapanel Interior tile backing systems can be completely saturated without losing any performance. Seamless Apertura perforated boards offer endless design opportunities with exceptional sound absorption properties. Knauf Acoustic Stud significantly increases sound reduction without increasing width or complexity. Knauf plasters are 3 times faster than traditional 2 coat, and without the reduction without increasing width or complexity. Knauf plasters and re-processing waste plasterboard from sites. The paper liners on our boards are from 100% recycled stock. We use recycled and 100% synthetic gypsum whenever possible – normally desulphurised gypsum (a by-product from power stations). And of course, we are ISO 14001 certified.

Project and Specification Managers
Our national team of Project & Specification Managers (PSM) can provide help and support throughout the duration of your project. They are often involved with the entire supply chain from the distributor through to the client, speeding up the flow of information, and spotting and eliminating likely issues. Our PSMs are all highly skilled and technically qualified, and specialise in bespoke design and value engineering large projects.

Call 01795 416259 to find out more.

The Technical Services team
Our office-based Technical Support Officers (TSOs) work hand in hand with our PSM team, providing design back-up and a quick response to all your technical enquiries. Our TSOs are all technically qualified and enjoy comprehensive and ongoing training. Our commitment to investing in people has resulted in a large number of TSOs going on to become PSMs in the field, and the two teams have an excellent working relationship – enhancing the level of service you can expect from us.

Call 01795 416259 for technical advice.

Time
Time is precious and we know that you are busy. That is why we have developed a whole host of timesaving devices for the specifier. Our online Partition Selector chooses the correct partitions for your requirements (you can value engineer multiple partitions too) and writes the specification for you – you can have the full specifications in PDF for, say, 10 partitions, in a matter of minutes. It will also create bespoke technical manuals for you at the same time. Our system literature provides sector-specific guidance to regulations, and optimised systems that we know are ideal for that sector’s requirements. Our Technical Services department won’t keep you hanging on the telephone.

For more information, call 01795 424499.
Supporting Tools and Literature

Online
Our award-winning website is an invaluable tool and features CAD downloads, interactive tools, system information and much more.

www.knauf.co.uk

The Manual online
The online partner to this document quickly gives you the information you need on our products and systems, wherever you are.

Partition Specifier
How would you like to specify and value engineer all the dry-wall partitions on your project, complete with paperwork, in a few minutes? Our online Partition Specifier does exactly that – and it’s totally free for you to use. Just part of the service. Try it and our other online tools at www.knauf.co.uk – you won’t be disappointed.

BB93 calculator
Makes specifying for schools easy. Simply choose the source and receiving rooms and enter the required data in the spaces provided.

Literature
We know that different sectors have their own unique requirements and dedicated regulations. That’s why we created our Design Partner series of technical guides – they’re far quicker to reference than the regulations, without being dumbed down. And they give you access to our sector-optimised systems and specification advice.

Order your free copies on 08700 613700. Alternatively, they can be downloaded from: www.knauf.co.uk

Our Design Partner Series includes technical guides for Housing, Hospitals, Schools, Commercial, Retail and Leisure buildings. Combine these with our award-winning online Manual, with its tools to specify partitions, write O&M Manuals and calculate BB93 performances and you can make short work of specifying even the largest project.

Supporting Tools and Literature 311
System Performance Warranty

Your peace of mind.

Knauf’s range of comprehensive fully warranted drylining systems offer a single source of supply and complete peace of mind for clients, specifiers and contractors.

Our systems have been developed as complete drywall constructions to ensure consistent and effective performance on-site. Knauf products are tested together as component parts of these systems to recognised standards: for correct warranted performance only genuine Knauf components should be used.

The Knauf System Performance Warranty ensures your drywall systems are:

- Designed to perform consistently for the lifetime of the system
- Fully supported by Knauf Technical Services both pre-site and during construction
- Guaranteed in the unlikely event of unsatisfactory product or system performance

All the systems in this brochure are covered by our comprehensive Knauf Performance Warranty, giving you the assurance that the systems you specify and install will perform to specification.

Our full system and product warranty statements are available from Knauf Technical Services on 01795 416259, our literature line on 08700 613700 and online at www.knauf.co.uk

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UK Freephone: 0800 521 050
UK Freefax: 0800 521 205
Email: cservice@knauf.co.uk

Technical Service
UK Tel: 01795 416 259
Eire Tel: 01 4620739
Email: technical@knauf.co.uk

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Sittingbourne
Kent ME9 8SR

Website
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Build for the world we live in
Knauf: A Family Business

Family principles, global dimensions

Knauf is a family name and a corporate group of global dimensions, but at the same time synonymous with a type of corporate culture which has become rare. Knauf is a typical family firm in spite of its size and this is precisely the reason for its amazing success. It is the short and direct decision-making paths, the courage to tackle new ideas, innovations, investments and the wealth of ideas contributed by all Knauf employees that characterise the company.

Knauf was founded in 1932 and has expanded and diversified to become a corporation with worldwide activities, delivering products and services in many fields:

- Building materials and systems based on gypsum and gypsum-related products
- Thermal insulating and sound insulation materials
- Limestone and lime products
- Chalk and cement-related products
- Mechanical engineering
- Pre-formed parts
- Interior construction
- DIY products
- Facades
- Logistics

For further information on the Knauf Group visit: www.knauf.com

Knauf in the UK

The successful development of the UK business started in 1988 with the construction of our first plasterboard plant in Sittingbourne, Kent. A second plasterboard plant at Immingham, N.E. Lincolnshire, and a plaster plant at Sittingbourne closely followed. To date, in excess of £100 million has been invested in the most advanced manufacturing technology, making Knauf one of the largest suppliers of gypsum-based building materials in the UK.

Knauf is firmly committed to on-going technology developments and diversification, working closely with the industry to deliver quality, innovative, cost-effective products to our customers. Knauf systems have been used and installed around the world with proven success. In the UK, products have the quality assurance of the Company’s BS EN ISO 9001:2000 and BS EN ISO 14001 certification.

To ensure that this success continues into our third decade, we are not only working to continually improve the quality of current products and services, but constantly monitoring and evaluating trends for new materials, technologies and systems. In this way we can identify and develop each new opportunity to maintain our leading edge position.

Gypsum, a sustainable material

Huge deposits of natural gypsum were laid down 100 to 200 million years ago. These are now extracted by both open cast and underground mining. The extraction process requires only small surface areas, minimising interruption of natural processes in terms of space and time.

FGD Gypsum

Flue Gas Desulphurisation (FGD) systems are used by coal-fired power stations to reduce emission levels. Knauf was instrumental in the research, development and implementation process that has enabled the use of one of the end products of the cleaning process (FGD gypsum – chemically identical to natural gypsum) in the manufacture of its products.

Knauf recycle every available tonne of this resource, constantly checking its quality, into a range of our high-quality products.

In addition, we are increasingly incorporating recycled site-waste gypsum into our products which, themselves, remain completely recyclable.

For more information on sustainability, please see pages 278–283.
## Knauf Performer ‘C’ Stud partition performance information

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>Combinations</th>
<th>Overall width (mm)</th>
<th>‘C’ Stud centres (mm)</th>
<th>Acoustic rating (dB Rw)</th>
<th>Fire rating (resistance in minutes)</th>
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2. One layer of 25mm Knauf Earthwool Acoustic Roll.
3. The acoustic ratings for Wallboard also apply to all Knauf plasterboard types except for Knauf Soundshield Plus and Knauf Performance Plus.
4. The fire ratings for Wallboard in this column also apply to Knauf Moisture Panel.
# Knauf Performer ‘I’ Stud partition performance information

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<th>'I' Stud depth and gauge</th>
<th>Overall width (mm)</th>
<th>Board width (mm)</th>
<th>Layers</th>
<th>'I’ Stud centres (mm)</th>
<th>Maximum height (mm)</th>
<th>Fire rating (resistance in minutes)</th>
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</table>

1 Maximum heights calculated based on a limiting deflection of L/240 at 200 Pa.

2 These relate to fire resistances in accordance with BS 476: Part 22: 1987.

For maximum heights in relation to the use of EN 1364-1: 1999 please contact Knauf Technical Services.

Note: For acoustic ratings for specific Knauf ‘I’ Stud partitions, please contact Knauf Technical Services.
### Knauf Easybuild

<table>
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<th>Stud depth and gauge</th>
<th>Overall width</th>
<th>Board width</th>
<th>Layers</th>
<th>Stud centre</th>
<th>Maximum height (mm)</th>
<th>Acoustic rating (dBB Rw)</th>
<th>Fire rating (resistance in minutes)</th>
<th>BS 476</th>
<th>EN 1364</th>
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<td>70mm 'C' (0.55)</td>
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Note: All data relates to the use of Knauf Soundshield Plus.

### Knauf Isolator

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<th>Overall width</th>
<th>Board width</th>
<th>Layers</th>
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<th>Maximum height (mm)²</th>
<th>Acoustic rating¹</th>
<th>Fire rating¹ (resistance in minutes)</th>
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<td>2600</td>
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1 Data relates to use of Knauf Soundshield Plus and 30mm Knauf Earthwool Universal Slab R0.33.
2 Data relates to use of Knauf Soundshield Plus and 2 layers of 22mm Knauf Earthwool Acoustic Roll.
3 Maximum height data relates to the use of 60mm Knauf 'I' Stud systems and are based on a limiting deflection of L/240 at 200 Pa. These relate to fire resistances in accordance with BS 476. Part 22: 1987. For maximum heights in relation to the use of Knauf 'C' Studs, braced at maximum 1500mm centres with acoustic braces (by others), please contact Knauf Technical Services.
4 Data relates to use of Knauf Soundshield Plus and 100mm Knauf Earthwool Acoustic Roll.
5 Data relates to use of Knauf Soundshield Plus and 2x100mm Knauf Earthwool Acoustic Roll.

Note: All data relates to the use of Knauf Soundshield Plus.

### Knauf Shaftwall

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<th>Board width</th>
<th>Layers</th>
<th>Stud centre</th>
<th>Maximum height (mm)²</th>
<th>Acoustic rating¹</th>
<th>Fire rating¹ (resistance in minutes)</th>
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2 One layer of 25mm Knauf Earthwool Acoustic Roll.
3 Fire ratings quoted in accordance with BS 476: Part 22: 1987 (Integrity Only). The temperature of the exposed flange of the 'C-T' Stud may exceed the requirements of BS 476. Part 22:1987 when the quoted fire test period. Relaxation should be sought from the approving Authority on the basis that no combustible materials are likely to be stored adjacent to the structure where the full insulation period is required. For ratings in accordance with EN 1364-1: 1999, please contact Knauf Technical Services.
4 Data relates to use of Knauf Fire Panel, Knauf Performance Plus or Knauf Impact Panel on the non-shaft side.

### Knauf Silent Spacesaver

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<th>Layers</th>
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</table>

* One layer of 25mm Knauf Earthwool Acoustic Roll should be used.
** One layer of 30mm Knauf Earthwool Acoustic Roll should be used.
3 Data relates to use of Knauf Soundshield Plus.

Note: All data relates to the use of Knauf Fire Panel, Knauf Performance Plus or Knauf Impact Panel on the non-shaft side.

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**Notes:**
1. All data relates to the use of Knauf Fire Panel, Knauf Performance Plus or Knauf Impact Panel on the non-shaft side.
3. All data relates to the use of Knauf Soundshield Plus.

**Appendices**

For more information on these and other system performances, please contact Knauf Technical Services on 01795 416259.

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Knauf ‘I’ Stud Linings

Dimensions (mm) | Maximum height (mm) | Fire rating BS 476 (resistance in minutes)
--- | --- | ---
**Overall width** | **Board width** | **Layers** | **600mm Stud centres** | **400mm Stud centres** | **300mm Stud centres** | **Wallboard/Soundshield Plus** | **Fire Panel/Performance Plus/Impact Panel**

**30mm ‘I’ (0.55)**
63 | 12.5 | 1 | 3100 | 3600 | 3900 | – | 30
65 | 15 | 1 | 3100 | 3600 | 3900 | – | 60
73 | 12.5 | 2 | 3100 | 3600 | 3900 | – | 60
80 | 15 | 2 | 3100 | 3600 | 3900 | – | 90

**60mm ‘I’ (0.55)**
73 | 12.5 | 1 | 3500 | 4100 | 4500 | – | 30
75 | 15 | 1 | 3500 | 4100 | 4500 | – | 60
83 | 12.5 | 2 | 3500 | 4100 | 4500 | 60 | 60
90 | 15 | 2 | 3500 | 4100 | 4500 | 60 | 90

**80mm ‘I’ (0.70)**
73 | 12.5 | 1 | 3800 | 4400 | 4800 | – | 30
75 | 15 | 1 | 3800 | 4400 | 4800 | – | 60
83 | 12.5 | 2 | 3800 | 4400 | 4800 | 60 | 60
90 | 15 | 2 | 3800 | 4400 | 4800 | 60 | 90

**100mm ‘I’ (0.70)**
83 | 12.5 | 2 | 4300 | 4900 | 5400 | – | 60
85 | 15 | 1 | 4300 | 4900 | 5400 | – | 60
95 | 12.5 | 2 | 4300 | 4900 | 5400 | 60 | 60
100 | 15 | 2 | 4300 | 4900 | 5400 | 60 | 90

**125mm ‘I’ (0.90)**
105 | 12.5 | 1 | 5700 | 6300 | 7100 | – | 30
107 | 15 | 1 | 5700 | 6300 | 7100 | – | 60
117 | 12.5 | 2 | 5700 | 6300 | 7100 | 60 | 60
122 | 15 | 2 | 5700 | 6300 | 7100 | 60 | 90

**166mm ‘I’ (1.00)**
139 | 12.5 | 1 | 8000 | 9100 | 10000 | – | 30
141 | 15 | 1 | 8000 | 9100 | 10000 | – | 60
171 | 12.5 | 2 | 8000 | 9100 | 10000 | 60 | 60
176 | 15 | 2 | 8000 | 9100 | 10000 | 60 | 90

1 Overall width for Knauf linear system only.
2 Maximum height calculated based on a limiting deflection of L/240 at 200 Pa. These relate to fire resistances in accordance with BS 476. Part 22: 1987. For maximum heights in relation to the use of EN 13564-1, 1999 please contact Knauf Technical Services.
3 Fire resistance period for complete wall structure including external steel cladding to BS 476: Part 22: 1987 (rigidity only).

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