KNAUF

A complete 'through the wall' system

One source

Full design service

BBA certified

De-risk the build

Various finishing options

Fire classification of A1 or

A2-s1,d0 products used

Knauf ThroughWall

Exterior Infill Panel System

Build on us.

CONTENTS

Offering a complete ‘through the wall’ system.

An introduction to the Knauf ThroughWall System

Knauf ThroughWall is a one-manufacturer solution that provides the integral parts of an exterior wall system. It is designed to meet required building performance while allowing a flexibility of external finishes to be applied, such as rainscreen cladding and brickwork.

The Knauf ThroughWall system is also suitable for use in buildings in excess of 18 metres* in height. The flexibility in specifying Knauf products allows various options of system build-up to be achieved whilst meeting regulatory requirements, such as structural, fire resistance and thermal performance. It is important that the overall external wall design including the chosen cladding is checked to ensure the required testing and regulatory requirements are met.

Employing a warm/hybrid frame construction means that the SFS** is sheathed with external insulation and/or insulated within the SFS.

The system comprises of Knauf Plasterboards, Knauf Steel Framing Sections, Knauf Insulation OmniFit Slab 35 or OmniFit Roll 34, Knauf Windliner and Knauf Insulation Rocksilk RainScreen Slab.

Knauf ThroughWall can be designed to interface internally within the building with various interior systems solutions from Knauf ranging from drywall, ceiling and flooring solutions.

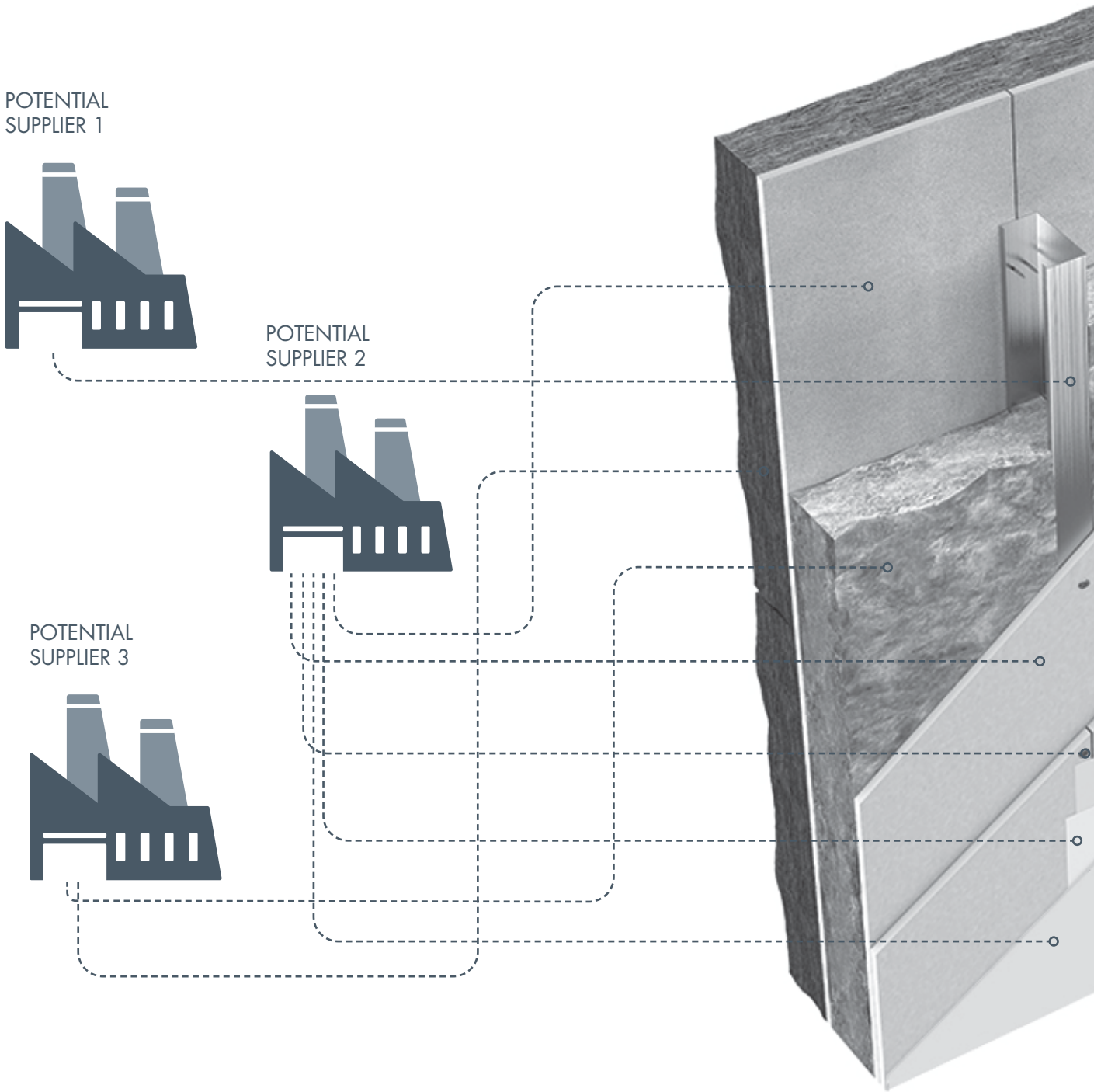
* 11m for Scotland
** Steel Framing Sections

WHY KNAUF THROUGHWALL?

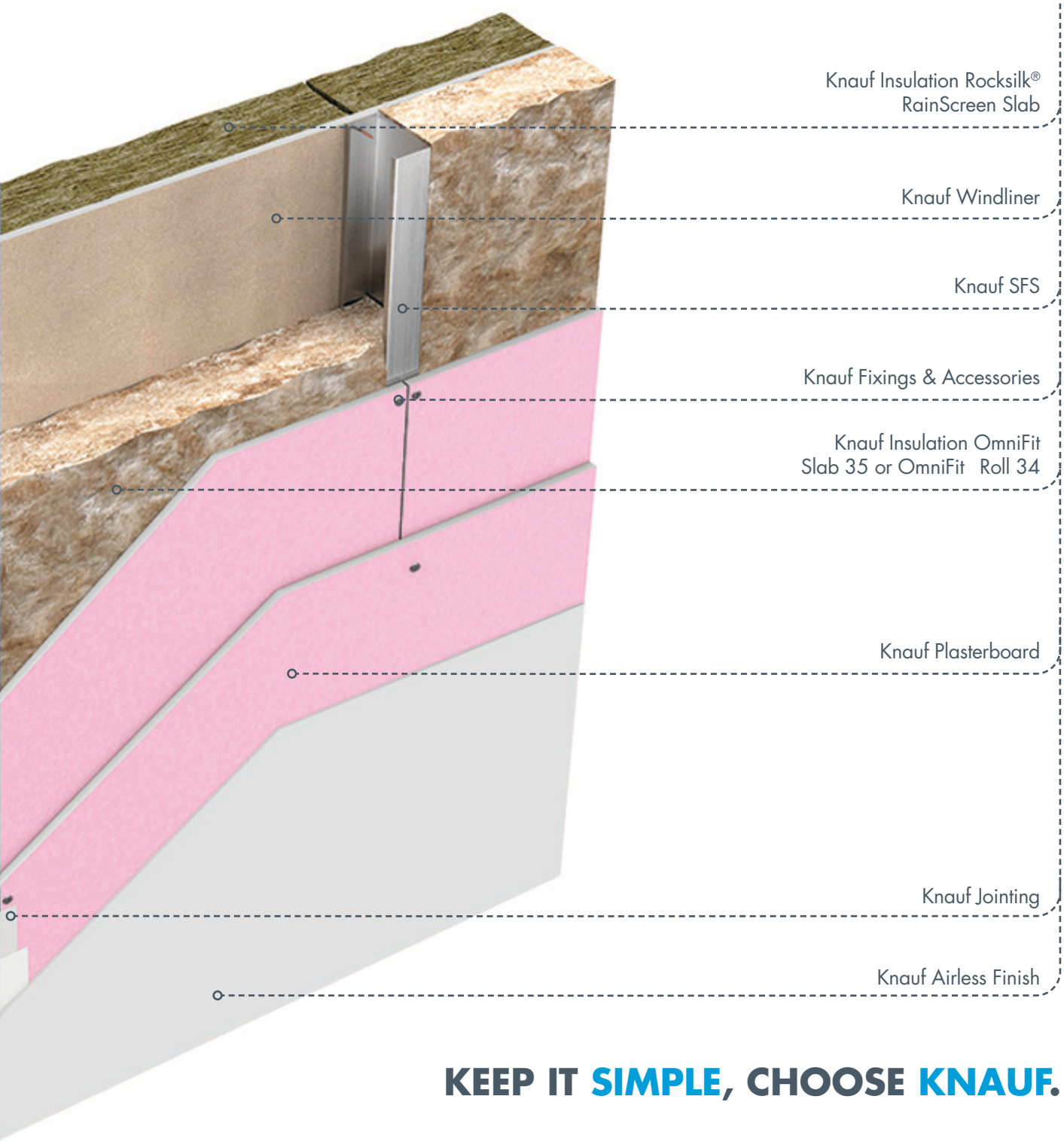
Traditionally, most system components listed below are sold by different suppliers. This results in a lack of cohesive data on system performance and ambiguity as to which manufacturer is responsible in the event of a system failure.

At Knauf, we recognise this complication when designing, specifying and building systems.

Knauf, at the time of publication, is the only manufacturer in the UK and Ireland to provide all products to form an external infill panel system along with providing associated technical support via its Technical Design and Support Services.



KNAUF = 1 fully tested system



KEEP IT SIMPLE, CHOOSE KNAUF.

WHY KNAUF THROUGHWALL?

De-risk the ThroughWall Design

When products from multiple manufacturers make up a system, there will inevitably be areas where no details exist on how to interface one product with another or queries arise when abutting two systems from different manufacturers. A typical example of this is where an internal partition meets an external wall system and how the systems should be constructed together. With the Knauf ThroughWall system, there is just one manufacturer and one set of full system drawings to indicate how the system should be constructed, resulting in far fewer queries from specification to installation. Furthermore Knauf offers a full range of internal and external product options to complement the ThroughWall system.

Knauf System Performance Warranty and Certification

Instead of only supplying product specific data, Knauf can provide full system performance data, testing reports (acoustics, fire and thermal U-value calculations) and certification including a BBA (British Board of Agrément) certificate for the complete Knauf ThroughWall system.

Individual product warranties do not necessarily accurately reflect how the completed structure will perform as a system. Only a full system of the sort provided by Knauf will do this. Knauf offer a full system performance warranty when 100% of all products in the system are Knauf products and installed in accordance with the guidelines provided. This gives everyone in the supply chain peace of mind.

Sustainability Promise

Positive Products

Knauf ThroughWall is designed and manufactured to minimise the amount of wastage created on site, for example metal sections are cut to the required length. Gypsum, the basic material of plasterboard, is a plentiful and widely available material. It is also eminently recyclable, and Knauf and Knauf Insulation have been actively involved in a drive to develop a circular economy for construction products.

Knauf plasterboard includes recycled content. Knauf Insulation Glass Mineral Wool solutions contain up to 80% of recycled content, and by maximising the amount of recycled glass cullet in the manufacture of our products, we minimise our need for mineral raw materials. Our unique bio-based binder, ECOSE Technology avoids the use of petrochemicals. It is 70% less energy intensive than traditional binders, reducing energy consumption and CO2 emissions at our manufacturing facilities.

Minimising Environmental Impact

The Knauf ThroughWall system compares favourably to similar A and A+ rated systems listed under the BRE Green Guide. Within the Knauf range, we provide options to construct full systems without any water being present on site.

By using a single supplier, fewer deliveries are needed to site thus reducing the overall carbon footprint. Knauf co-ordinate trucks to ensure full loads are delivered as often as possible and seek out local options for energy efficient transport, including rail and river.

We, Knauf in the UK and Ireland, have had a sustainable decade focusing on positive products, minimising impact, reducing our energy use and emissions, recycling our production waste, incorporating circular economy principles and constantly campaigning for better and more sustainable buildings.

ALL MAJOR COMPONENTS IN THE SYSTEM ARE PRODUCED IN THE UK.

WHY KNAUF THROUGHWALL?

ARCHITECT

Design Flexibility

The Knauf ThroughWall system is one integral part of the overall external wall system build-up. It can provide design flexibility to accommodate various cladding options. The various cladding and associated component options must be checked to ensure required testing and regulatory requirements are met.

Bespoke Technical Support

Knauf can offer a full SFS Design Service to suit the architect's needs. The range of design options include early indicative SFS design leading up to full elevated panel designs. In addition, bespoke specifications can be produced to capture the various project specific technical performance criteria. BIM models of the SFS can also be produced. By working with the architect at an early stage, this allows Knauf to work closely with other trades to minimise potential site issues such as 'design clashes'.

Accredited Products

In addition to the BBA certification for the ThroughWall full system, individual component products also have BBA certification, these include:
Knauf Insulation Rocksilk RainScreen Slab and Knauf Windliner. Furthermore products that can be used for providing exterior finishes to the Knauf ThroughWall system also have the BBA certification: Knauf AQUAPANEL® Exterior System and Knauf AQUAPANEL® Render onto the Knauf AQUAPANEL® Exterior System. Specification of the Knauf ThroughWall system and associated products can be given knowing that performance has been independently confirmed.

MAIN CONTRACTOR

Simple and Faster Build

Full up-front design by one manufacturer should simplify the construction process because all documentation is provided by one source. This means that there is less time wasted having to coordinate manufacturers and deliveries.

Knauf System Performance Warranty

System compliance (to ensure system performance warranty) can be easily checked with only one manufacturer's products needing to be identified on site. Build times will be shorter, with products delivered that are ready for use for example cut-to-length metal profiles.

Cost Savings

There can be cost savings at every stage including co-ordinated deliveries to site with all products coming from a single manufacturer and less time encountered liaising with multiple manufacturers.
In terms of the products, the Knauf ThroughWall system can negate the need for a breathable membrane in most circumstances due to its water and water vapour resistance.

Due to the nature of the products in the system, they will produce minimal waste which will also reduce costs on site.

Specialist Product Benefits

Knauf Windliner seals the building envelope. Once installed with the Knauf Windliner Tape, the building can be left for up to 6 months before the external finish is applied allowing internal works to proceed whilst the external face is finalised. Knauf Windliner also offers resistance to water vapour, thus negating the need for a separate breather membrane in most circumstances.

In terms of the internal finishes that work with the ThroughWall system, Knauf ready-mixed products offer high productivity and low waste.

With Knauf Airless Finishes, they come ready-mixed and so there is no need to bring water on to the site, and as material removed during the leveling process can simply be put back into the hopper and reused, there is very little waste.

HOW KNAUF CAN HELP YOUR PROJECT?

The features and benefits of the Knauf ThroughWall system are evident from the moment the products become part of a sketch on a designer's page, to the point they are installed as part of a finished building and beyond.

Stakeholders	Process	Knauf Support	Lead Time (in weeks)
Architect	Initial Scoping of Project	This is the stage where we meet designers to discuss and present the available options	
Project Engineer	Surveys and Brief	At this stage we gather the performance constraints to allow us to do the concept design	
	Concept Design	An indicative design is created by our in-house design team. The design is discussed and amended if needed in consultation with the Knauf Design Team and finally approved by all stakeholders	1
Main Contractor	Final Design	At this stage the indicative design has been approved and final drawings are produced	4
	Technical Realisation of Design	Here we work closely with the designers and contractors to get the drawings to construction status A	4-8
Installer	The Build	Here we offer on-site technical support on design and installation	1-2
	Project Handover	At this stage we can provide the design specification pack and supporting documentation on calculations	1-2

Knauf ThroughWall System BBA Certificate

We are proud to offer the Knauf ThroughWall system with full BBA certification (number 20/S046), examples of which are shown on pages 12 & 13.

Knauf also have several standalone product BBA Certifications including Knauf Windliner Sheathing Board (17/5442) and Knauf Insulation Rocksilk RainScreen Slab (19/5609), both of which form key components of the Knauf ThroughWall BBA Certification.

Full details of the scope of any of the above mentioned BBA certifications can be found within the document numberslisted.

SCAN HERE
FOR DIGITAL ACCESS TO
BBA CERTIFICATE

BBA APPROVAL INSPECTION TESTING CERTIFICATION
CERTIFICATE 20/S046

SYSTEM PERFORMANCE

Knauf ThroughWall System with 2 x 12.5mm Knauf Fire Panel

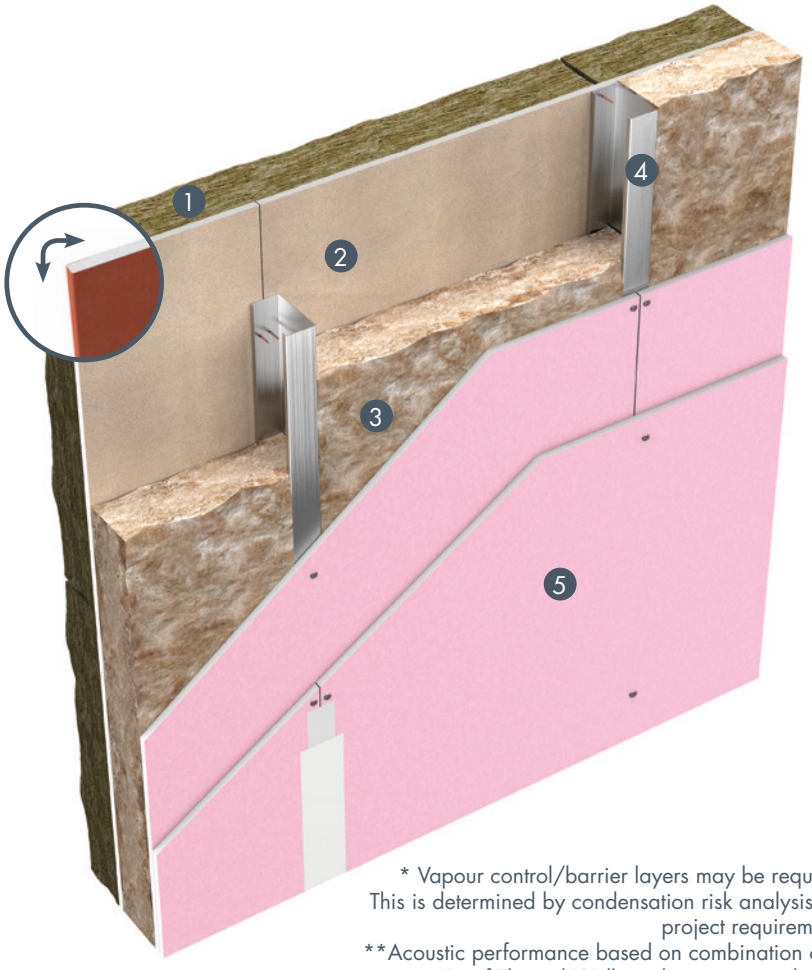
1 External Insulation
Knauf Insulation Rocksilk RainScreen Slab

2 Sheathing Board
1x12.5mm Knauf Windliner

3 Infill Insulation
Knauf Insulation OmniFit Slab 35 or OmniFit Roll 34

4 Steel Frame
Knauf Steel Frame System (SFS)

5 Internal Plasterboard*
2x12.5mm Knauf Fire Panel



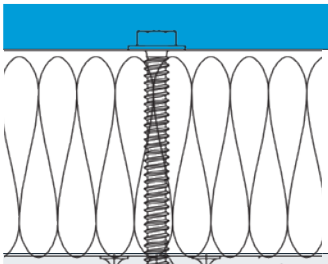
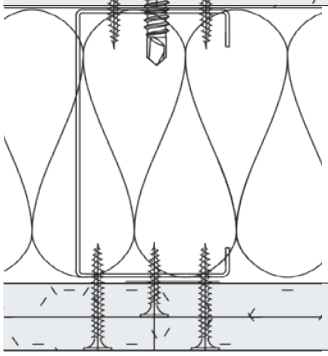
Fire Resistance
BS EN 1364-1
EI90 min (Inside to Outside)
EI120 min (Outside to Inside)

Sound Insulation
BS EN ISO 10140-2
53-61 dB**

Certification
BBA approved

U-value
BS EN ISO 10211, BR443
0.19-0.32 W/m2K

* Vapour control/barrier layers may be required. This is determined by condensation risk analysis and project requirements.
**Acoustic performance based on combination of all Knauf ThroughWall products types and sizes.
Note: System performance based on imperforate system. Where openings, service penetrations are installed, this will need to be independently assessed.

	U-value 0.19W/m²K	U-value 0.22W/m²K	U-value 0.32W/m²K
	150mm Knauf Insulation Rocksilk® RainScreen Slab tightly fitted around 'helping hand' brackets	75mm Knauf Insulation Rocksilk® RainScreen Slab tightly fitted around 'helping hand' brackets	75mm Knauf Insulation Rocksilk® RainScreen Slab tightly fitted around 'helping hand' brackets
	1x 12.5mm Knauf Windliner	1x 12.5mm Knauf Windliner	1x 12.5mm Knauf Windliner
	100mm x 1.2mm gauge Knauf SFS Stud 600mm centres 100mm Knauf Insulation OmniFit® Slab 35 tightly fitted between SFS Studs	150mm x 1.2mm gauge Knauf SFS Stud 600mm centres 150mm Knauf Insulation OmniFit® Slab 35 tightly fitted between SFS Studs	100mm x 1.2mm gauge Knauf SFS Stud 600mm centres 100mm Knauf Insulation OmniFit® Slab 35 tightly fitted between SFS Studs
	2x12.5mm Knauf Fire Panel	2x12.5mm Knauf Fire Panel	2x12.5mm Knauf Fire Panel

Knauf ThroughWall System with 2 x 15mm Knauf Fire Panel

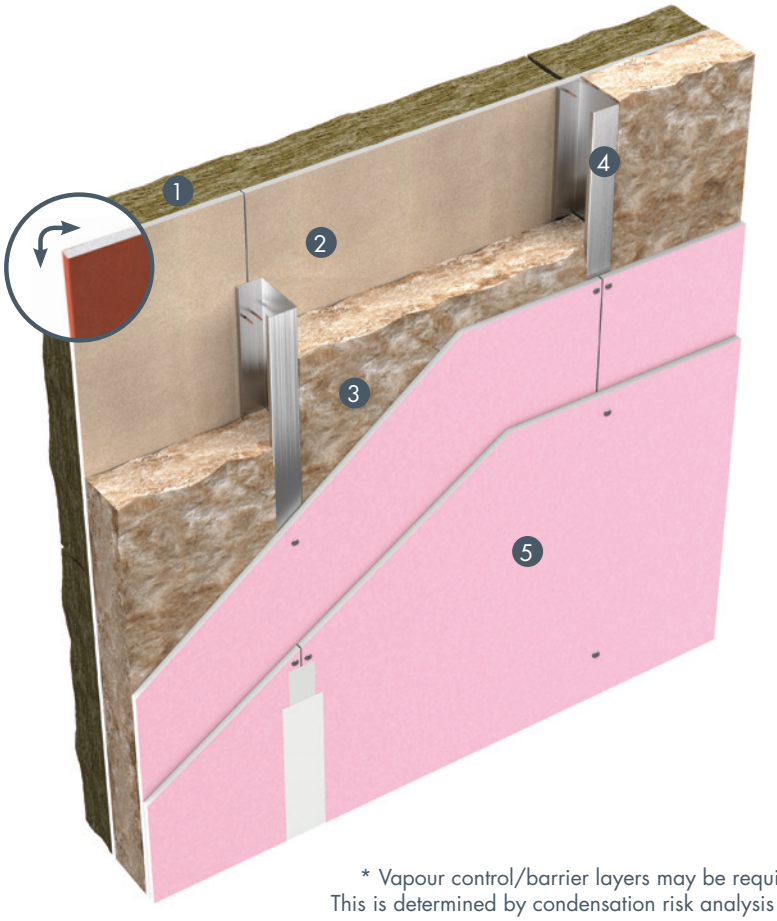
1 External Insulation
Knauf Insulation Rocksilk RainScreen Slab

2 Sheathing Board
1x12.5mm Knauf Windliner

3 Infill Insulation
Knauf Insulation OmniFit Slab 35 or OmniFit Roll 34

4 Steel Frame
Knauf Steel Frame System (SFS)

5 Internal Plasterboard*
2x15mm Knauf Fire Panel



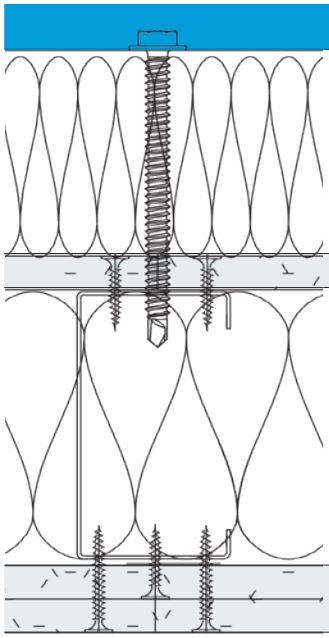
Fire Resistance
BS EN 1364-1
EI120 min (Inside to Outside)
EI120 min (Outside to Inside)

Sound Insulation
BS EN ISO 10140-2
53-61 dB**

Certification
BBA approved

U-value
BS EN ISO 10211, BR443
0.20 W/m2K

* Vapour control/barrier layers may be required. This is determined by condensation risk analysis and project requirements.
**Acoustic performance based on combination of all Knauf ThroughWall products types and sizes.
Note: System performance based on imperforate system. Where openings, service penetrations are installed this will need to be independently assessed.

U-value 0.20W/m2K	
	150mm Knauf Insulation Rocksilk RainScreen Slab tightly fitted around 'helping hand' brackets
	1x 12.5mm Knauf Windliner
	90mm x 1.2mm gauge Knauf SFS Stud 600mm centres 90mm Knauf Insulation OmniFit Slab 35 tightly fitted between SFS Studs
	2x15mm Knauf Fire Panel

SYSTEM PERFORMANCE – BUILDING REGULATIONS

We have a wide range of variations to the Knauf ThroughWall system to cater for many different requirements such as structural, fire, thermal and acoustic properties, whilst complying to the relevant building regulations.

The below table extract provides a summary of the respective fire resistance requirements for national building regulations and technical handbooks/ standards in the case of new build buildings of multiple occupancy.

Purpose to show the various fire resistance periods for certain building heights against location.
The table focuses on Fire Resistance: Integrity and Insulation – for requirements and applications of non-loadbearing exterior wall systems only. We would recommend consulting the various documents for full information in all cases.

		External wall less than 1m from a boundary1			External wall more than 1m from a boundary1		
		Fire resistance period (mins)**		Exposure	Fire resistance period (mins)**		Exposure
	Height of building*	Integrity	Insulation		Integrity	Insulation	
England, Wales & NI	≤ 5m	30 or 60	30 or 60	Each side separately	30 or 60	15 min	From inside the building
	≤ 18m	60	60	Each side separately	60		From inside the building
	≤ 30m	90	90	Each side separately	90		From inside the building
	≥ 30m***	120	120	Each side separately	120		From inside the building
Scotland	≤ 7.5m	30	30	Each side separately	30	0	From inside the building
	≤ 11m	60	60	Each side separately	60	60	From inside the building
	11m to 60m	90 or 120	90 or 120	Each side separately	–	–	–
Ireland	< 20m	60	60	Each side separately	30	15	From inside the building
	< 30m	90	90	Each side separately	60		From inside the building
	> 30m***	120	120	Each side separately	120		From inside the building

[1]Such walls may contain areas that do not need to be fire resisting (unprotected areas). Refer to appropriate regulations/technical guidance/handbooks
* from ground or upper storey
** referance in accordance with purpose group of building and test methodology with regulations/technical guidance/handbooks
*** with the inclusion of sprinklers

Note: Different fire resistance performances are available subject to use of sprinklers within buildings – refer to applicable regulatory documents for further information.

Referance material:
Approved Document B V2 - Building Regulations 2010 for England (2019 edition)
Approved Document B V2 - Building Regulations 2010 for Wales (2016 amendment)
Technical Handbook Non-Domestic - Scotland
Technical Booklet E - Building Regulations 2012 for Northern Ireland
Technical Guidance Document - Building Regulations 2006 for Ireland
Note: The above table provides an abstract summary of requirements for applications of non-loadbearing elements and is correct as at the time of publication. Regulation documents should be referred to in all cases to understand all requirements. Please consult latest published standards when available.

Wind Load

The Knauf Technical Design Service will evaluate the wind load at the location of your project and the physical weight of the desired building finish (be it cladding, masonry or render) and specify the correct system to provide the necessary strength.

Condensation

When using components from multiple manufacturers, with no overall control of the full system, it is difficult to assess the unwanted consequences of any unplanned condensation. Knauf offer Condensation Calculations.

Acoustic Performance

With growing urbanisation, insulating against external sound sources (such as busy transport links) is more important than ever. We can specify a system to suit the requirements of your project to ensure that both the level and type of sound insulation required are accounted for.

Thermal Performance

The growing focus on energy efficiency and carbon emissions, as well as the cost of heating, makes it vital to ensure a building is well insulated. Knauf offer solutions to lower the U-value of the exterior wall to an impressive 0.10W/m2K (refer to Knauf Technical Services for Technical calculations).

Knauf Windliner installed on Middlewood Locks mixed-use development in Salford, Greater Manchester

SYSTEM COMPONENTS – INTERNAL FINISHING OPTIONS

				Application			Bag Details			
				Bedding Coat	Finish Coat	Patching and Repair	Material No.	Sizes available	Coverage	Shelf Life
Powdered	Hand Applied	Hand / Machine Applied		Knauf Fill & Finish 30/60 Premium A fast setting multi-purpose gypsum-based compound for bedding tapes and beads as well as finishing. Available in 30 or 60 minute working time options.	✓	✓	✓	622329 622332	10kg	45m2	9 months
				Knauf Joint Filler Premium A fast-setting gypsum compound for bedding joints by hand application. 90 minutes working time.	✓	✗	✓	622340 622342	10kg 20kg	55m2 110m2	9 months
				Knauf Joint Cement Premium A lightweight air-drying compound for bedding tapes and finishing joints by hand or machine application. Use over Knauf Joint Filler Premium.	✓	✓	✗	622337	20kg	80m2	12 months
Ready-mixed				Knauf Fill & Finish Light Lightweight ready-mixed compound for bedding tapes and finishing joints in drywall partitions and ceillings.	✓	✓	✓	601462 601440	5kg 20kg	11.25m2 45m2	12 months
				White finish	Thickness (one layer)	Tip Size	Material No.	Sizes available	Coverage	Shelf Life
Ready-mixed	Air-drying	Hand / Machine Applied		Knauf Airless Finish Substrate/purpose: wallboard, smooth concrete and previously decorated surfaces.	✓	1–2mm	531–535	470362	25kg	up to 15m2	12 months

SYSTEM COMPONENTS – PLASTERBOARD RANGE

	Fire Panel	Performance Plus	Wallboard	Vapour Panel	Moisture Panel	Soundshield Plus
						
Description*	Enhanced fire resistance	High levels of sound, moisture, fire and impact resistance.	Strong and versatile, it is a cost effective choice for partitions, linings and ceilings with standard performance requirements	Creates an effective vapour barrier to limit moisture diffusion	Enhanced moisture resistance. (Use with Knauf Betokontakt when applying plaster skim)	Enhanced sound performance as well as impact and fire resistance.
Edge Type	SE, TE	TE	SE, TE	SE, TE	SE, TE	TE
Thickness / weight (kg/m²)**	12.5mm/10 15mm/12	12.5mm/11.5 15mm/12.8	9.5mm/6.1 12.5mm/8.1 15mm/10.1	12.5mm/8.1 15mm/10.1	12.5mm/8.8 15mm/10.2	12.5mm/11.5 15mm/12.8
Widths (mm)	900, 1200	1200	900, 1200	900, 1200	1200	1200
Lengths (mm)	1800, 2400, 2700, 3000	2400, 3000	1800, 2400, 2438, 2500, 2700, 3000	1800, 2400, 2438, 2700, 3000	2400, 2700, 3000	2400, 2700, 3000
BS EN 520 designations	A & F	A, D, F, H1, I & R	A	BS EN 14190	A & H2	12.5mm A & D 15mm A, D, F & I
Thermal conductivity	0.24W/mK	0.24W/mK	0.19W/mK	0.19W/mK	0.24W/mK	0.24W/mK

Key

A Standard plasterboard
D Gypsum plasterboard with controlled density
F Improved core adhesion at high temperatures
H Reduced water absorption rate
I Gypsum plasterboard with enhanced surface hardness
R Gypsum plasterboard with enhanced strength

* Performances of plasterboards are based on product characteristics and system testing using Knauf components
** Plasterboard weights stated exclude packaging. Weights are for guidance purposes only and are subject to change.
For details of available combinations of thickness, length and width, please refer to the current Knauf Drywall Price List or www.knauf.co.uk

Square Edge – SE

Tapered Edge – TE

high impact

water resistant

high acoustic performance

fire resistant

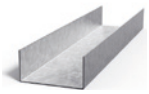
vapour barrier

SYSTEM COMPONENTS – STEEL FRAME

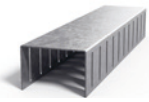
"C" section and "U" section components are formed from pre-hot dipped galvanised steel to BS EN 10346:2015, Grade S450 + zinc coating Z275 g/m2. Guaranteed minimum yield strength = 450 N/mm2 or greater.

Ancillary components including angles, cleats, brackets and "Z" bars are formed from pre-hot dipped galvanised steel to BS EN 10346:2015. Grade S390 + zinc coating Z275 g/m2. Guaranteed minimum yield strength = 390 N/mm2 or greater.

Knauf SFS 'C' Stud
Galvanised solid metal stud available in a range of different sizes and gauges, in custom cut lengths from 600mm upwards. Minimum order quantities apply.



Knauf SFS 'U' Track
Galvanised solid steel 'U' section for use as the standard base track for Knauf SFS systems.
Minimum order quantities apply.



Knauf SFS Slotted 'U' Track
Galvanised slotted steel deep 'U' section for use as the standard deflection head track for Knauf SFS systems. Knauf SFS Slotted 'U' Track is available in both 3m and 4m lengths. Minimum order quantities apply.

Knauf SFS 'Z' Bar
For use at the head and base of SFS panels where the SFS frame overlaps the footprint of the structure.

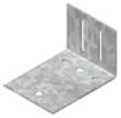
Knauf SFS Angle Section
There are two types of angle section; equal legged and unequal legged. Both are used for general building works. The equal legged Knauf SFS Angle Section is also used for connections between lintels and cills to jambs. The unequal legged Knauf SFS Angle Section is mainly used as a support to sheathing boards on the external face of the SFS system. There is also the option of a Slotted Angle Section.

Knauf SFS Flat Bracing Strap
Galvanised solid steel flat strap used below head tracks in deflection heads and for lateral frame bracing where required.

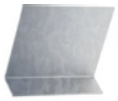
Knauf SFS Parapet Post
The Knauf SFS Parapet Post enables various parapet and wind post solutions.

Knauf SFS Oversail Cleat
The Knauf SFS Oversail Cleat enables the construction of SFS Oversail systems. These cleats are affixed to the primary structure and support the Oversail SFS frame.

Knauf SFS Cill Plate
The Knauf SFS Cill Plate supports heavy elements such as cantilevered windows fixed within the infill aperture.



Knauf SFS Cleat
The Knauf SFS Cleat is a bracket that joins the SFS assembly to the steel or concrete structure.

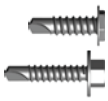


Knauf SFS Angle Cleat
The Knauf SFS Angle Cleat connects the Knauf SFS "C" Studs to the base or head Knauf SFS "U" Tracks within the SFS assembly.

For fixing of components, please refer to the project specific ThroughWall specification

SYSTEM COMPONENTS – SFS FIXINGS

All fixings stated are recommendations only. All connections from the frame to any interfacing structure or material must be checked for suitability and design by Knauf.



Knauf SFS Framing Screws (Low Profile Head or Hex Head)
Frame stitching screws. Up to 3.2mm steel thickness. 1000 hour salt spray corrosion resistance.

Knauf SFS Screws – Hex Drive Bit
An 8mm hex drive bit required for use with Knauf SFS Framing Screws (Hex Head).

Knauf SFS Screws – Steel (Low Profile Head or Hex Head)
A screw for fixing Knauf SFS to hot rolled steel substructures.

Knauf SFS Screws – Concrete
A hex headed screw for fixing Knauf SFS to concrete substructures.

Knauf SFS Screws – Boards
Screws with countersunk heads and a wing tip for fixing internal plasterboards to a Knauf SFS Frame.

Knauf Drywall Screws – Jackpoint Self Drilling
Self-drilling black phosphate screws with countersunk Ph2 heads for fixing plasterboard to metal frame 0.7mm to 1.2mm thick.

For more detailed information regarding individual product characteristics, please refer to the Knauf Exterior Systems Price List or contact Knauf Technical Services.

Pre-drilling of top and bottom track may be required. For full details, please refer to the ThroughWall Project Specific specification.

SYSTEM COMPONENTS – INSULATION

Knauf Insulation OmniFit® Slab 35

An A1 non-combustible multi-application glass mineral wool slab, manufactured using Knauf Insulation's unique ECOSE® Technology, and designed for use in multiple applications in both timber and steel frame construction to allow flexibility across projects.

Dimensions (mm)			Pack Details			Performance				
Length (mm)	Width (mm)	Thickness (mm)	Slabs per pack	Area per pack (m^2)	Packs per pallet	Thermal Resistance (m^2K/W)	Thermal Conductivity (W/mK)	Euroclass Reaction to Fire classification	Vapour Resistance	Density
1200	600	150	4	2.88	32	4.25	0.035	A1	Water vapour resistivity: 5.00MNs/g.m	Minimum density: 18kg/m^3
		140	4	2.88	36	4.00				
		100	6	4.32	32	2.85				
		90	6	4.32	36	2.55				
		75	8	5.76	32	2.10				
		70	8	5.76	32	2.00				
		50	12	8.64	24	1.40				
	400	140	4	1.92	48	4.00				

Knauf Insulation OmniFit® Roll 34

An A1 non-combustible multi-application glass mineral wool roll, manufactured using Knauf Insulation's unique ECOSE® Technology, and designed for use in multiple applications in both timber and steel frame construction to allow flexibility across projects.

Dimensions (mm)			Pack Details		Performance			
Length (mm)	Width (mm)	Thickness (mm)	Area per pack (m^2)	Packs per pallet	Thermal Resistance (m^2K/W)	Thermal Conductivity (W/mK)	Euroclass Reaction to Fire classification	Vapour Resistance
2500	1200	220	3.00	24	6.45	0.034	A1	Water vapour resistivity: 5.00MNs/g.m
3000		180	3.60	24	5.25			
3500		150	4.20	24	4.40			
4200		140	5.04	24	4.10			
5200		100	6.24	24	2.90			

Knauf Insulation Rocksilk® RainScreen Slab

An A1 non-combustible rock mineral wool slab, manufactured using Knauf Insulation's unique ECOSE® Technology and designed for use in RainScreen façade systems both below and above 18m in height.

Dimensions (mm)			Pack Details			Performance				
Length (mm)	Width (mm)	Thickness (mm)	Area per pack (m^2)	Pieces per pack	Packs per pallet	Thermal Resistance (m^2K/W)	Thermal Conductivity (W/mK)	Euroclass Reaction to Fire classification	Vapour Resistance	Wind Load
1200	600	250	1.44	2	10	7.35	0.034	A1	Water vapour resistivity: 5.00MNs/g.m	Wind fatigue testing: 3.6kPa
		210	1.44	2	12	6.15				
		200	1.44	2	12	5.85				
		180	2.16	3	10	5.25				
		150	2.16	3	12	4.40				
		120	2.88	4	10	3.50				
		100	2.88	4	12	2.90				
		75	4.32	6	12	2.20				
		50	5.76	8	12	1.45				

For more detailed information regarding individual product characteristics, please refer to the Knauf Exterior Systems Price List or contact Knauf Technical Services.

SYSTEM COMPONENTS – WINDLINER

Knauf Windliner

Knauf Windliner is a specialist gypsum-based external-grade sheathing board specifically designed for use with external wall systems. It is easily identifiable by its terracotta external paper finish. Suitable for use with Knauf ThroughWall systems. Provides protection against the weather for the outer face of the Knauf SFS Stud.

Dimensions (mm)		Weight (kg/m^2)	Thickness	Density	Edge type	Material No.	Pallet details
Length	Width						
2400	1200	10	12.5	$800kg/m^3$	Square edge	278923	56 boards/pallet (1.62 tonnes)

Technical Characteristics	Standard	Knauf Windliner Performance
Density (kg/m3)	N/A	800
Flexrual Strength – Longitudinal Direction (N)	BS EN 520:2004	>550
Flexrual Strength – Traverse Direction (N)	BS EN 520:2004	>210
Reaction to Fire	BS EN 13501-1:2007	A2-s1,d0
Thermal Conductivity (W/mK)	BS EN 12667:2001	0.24
Water Vapour Resistance (MNs/g)	BS EN ISO 12572:2001	0.5
Water Vapour Resistance Factor (μ)	BS EN ISO 12572:2001	6.6
Water Uptake (2hr Immersion) (%)	BS EN 520:2004	<5

Knauf Windliner Screws*

Specialist terracotta-coloured low profile headed screws for attachment of Knauf Windliner boards to the solid steel frame. Available in 25mm and 38mm lengths, and offer 500 hour salt spray corrosion resistance.

Dimensions (mm)			Material No.	Weight	Corrosion resistance	Reaction to fire
Length	Diameter	Fixing capacity	Material No.	kg/lm (Approx.)	Salt spray corrosion resistance	
25	3.5	13	525996	2.91	500 hours	A1 EN 14566:2008+A1:2009
38	3.5	26	525997	3.26		

Knauf Windliner Tape

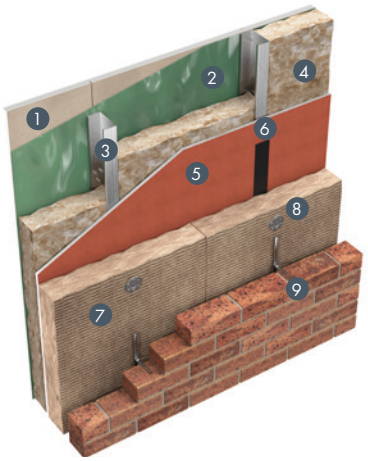
Airtight and weather resistant tape for sealing joints on the Knauf Windliner sheathing boards.
Highly UV and moisture resistant. Knauf Windliner Tape is classified as a 'seal' and is exempt under Regulation 7(3) in England and Wales. Subject to be used in accordance with Knauf recommendations.

Dimensions		Material No.	Weight
Length (m)	Width (mm)	Material No.	kg/lm (Approx.)
25	60	525459	2.91
25	100	610524	3.26

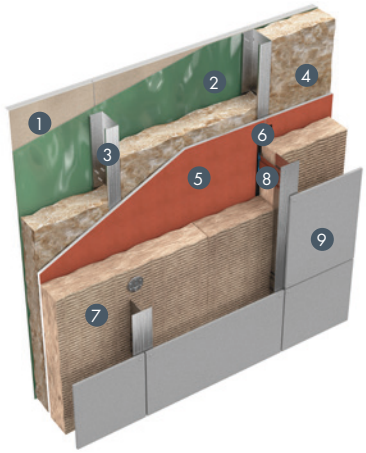
*When Fixing board through over 3mm of SFS stud work it is recommended to predrill the steel before using Windliner screws to fix board to studs.

For more detailed information regarding individual product characteristics, please refer to the Knauf Exterior Systems Price List or contact Knauf Technical Services.

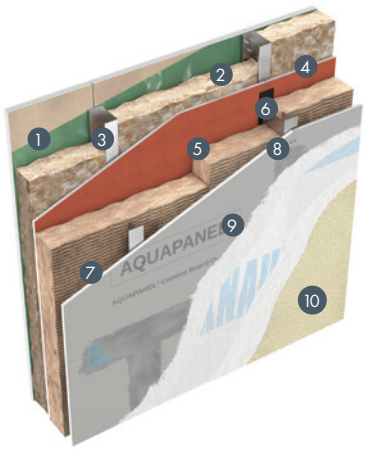
SYSTEM COMPONENTS – EXTERIOR FINISHING OPTIONS



1. Knauf Plasterboard (as per specification)
2. Vapour control layer (by others if required)
3. Knauf SFS frame
4. Knauf Insulation OmniFit® Slab 35 or OmniFit® Roll 34 (to suit specification)
5. Knauf Windliner
6. Knauf Windliner Tape
7. Knauf Insulation Rocksilk® RainScreen Slab (to suit specification)
8. Brick tie system (by others)*
9. Brick cladding system (by others)*



1. Knauf Plasterboard (as per specification)
2. Vapour control layer (by others)
3. Knauf SFS frame
4. Knauf Insulation OmniFit® Slab 35 or OmniFit® Roll 34 (to suit specification)
5. Knauf Windliner
6. Knauf Windliner Tape
7. Knauf Insulation Rocksilk® RainScreen Slab (to suit specification)
8. Cladding rail support system (by others)*
9. Rainscreen cladding system (by others)*



1. Knauf Plasterboard (as per specification)
2. Vapour control layer (by others if required)
3. Knauf SFS frame
4. Knauf Insulation OmniFit® Slab 35 or OmniFit® Roll 34 (to suit specification)
5. Knauf Windliner
6. Knauf Windliner Tape
7. Knauf Insulation Rocksilk® RainScreen Slab (to suit specification)
8. Cladding rail support system (by others)*
9. Knauf AQUAPANE® Cement Board Outdoor
10. Render System (by others)

Note: Consult Knauf Technical Services to ensure system is checked for suitability of project.

* The various cladding and associated components must be checked to ensure the required testing and regulatory conformity are met.

Knauf ThroughWall data and approvals are based upon the properties of Knauf elements. As brick tie channel systems and rainscreeen cladding systems sit outside of the system, guidance should be taken from the manufacturers of these systems in terms of structural performance.

Knauf ThroughWall Support

Further support and bespoke information are available in the following areas:

- Standard details
- BIM steel framing system drawings
- System Performance Warranty specifications
- Test data
- Installation guidance
- Site assistance

Simply contact:

Technical Services
Email: technical-uk@knauf.com
Live Webchat: 09:00 - 17:00 on www.knauf.co.uk
Furthermore, we have an Exteriors Business Development Team experienced in our ThroughWall system, Project Specification Managers and Project Technical Managers.
Full information can be found at www.knauf.co.uk

HERE AT KNAUF, WE BUILD FOR THE WORLD WE LIVE IN

We recognise the importance of the Commercial buildings in which we all live, work and relax.

We spend 90% of our lives inside buildings, so it is of the utmost importance that the homes we live in, the hospitals where we care for our sick, the schools in which we educate our children and the offi ces in which business operates are world class, safe, comfortable, sustainable and enjoyable.

The extensive portfolio of products and systems from Knauf UK & Ireland is developed to support that vision.

As a business, we look to the future; building on the knowledge we have acquired with a planned programme of research and development to make sure we continue to keep ahead of current thinking. Looking to the future also means that our business must be sustainable. We are always conscious of the wider consequences of our actions, both today and tomorrow. In terms of our operation we work hard to minimise our impact on the environment and are proud of our recycling, waste reduction and energy efficiency initiatives.

Education

Commercial

Healthcare

Residential

This brochure, and all information contained within, has been compiled in line with the regulatory standards that were applicable at the time of publication. Knauf recommend that all subsequent specifications and designs that arise out of reference to this document are cross-referenced with all regulatory standards that would be applicable at the time of writing.

CITB ACCREDITED TRAINING ORGANISATION

The Learning Zones at Immingham and Sittingbourne are CITB approved training facilities and offer various courses for the construction industry.

We believe in future-proofi ng and protecting the workforce.

We build for the world we live in.

We provide the best possible training on the large variety of systems and products that we supply, and make our courses widely available to those who request it. Whether the trainees are already skilled tradespeople, wishing to add to their existing knowledge, or people with no previous experience, there is a course in our range to benefit all.

We are happy to advise on the suitability of different courses and the content can be adapted to suit the requirements of the delegates.

All work carried out on the Knauf courses will be in a simulated site environment, and to industry standards, using British Standard and European Codes of Practice for accuracy and finish.

Contact us to find out more about the latest courses available.

Telephone: 01795 424499
Email: training@knauf.co.uk
Website: www.knauf.co.uk
Live webchat: 09:00 –17:00
CITB Accredited
Training Organisation

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Fire protection – Encasement systems
General overview of interior products and systems
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Metal suspended ceiling systems
Flooring – Brio and GIFA systems
Façades – Steel framing systems
Taping and jointing
Demountable ceiling systems
Drywall for site managers / Quality Control
Airless spray finishing

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KNAUF

Build on us.