

KNAUF



Cement board for exterior applications

Easy to cut and fix

Robust, stable substrate

Easily curved

BBA certified

NHBC, LABC and Premier
Guarantee Approved

Knauf Aquapanel Exterior

The ideal render carrier board



Build for the world we live in



Fast closure of exterior walls

Taped and jointed walls can be left unfinished for up to 6 months

Easy to cut and fix – simply score and snap, no pre-drilling

Non-organic, mould resistant, robust and stable substrate

Easily curved down to 1 metre radius

Creates thinner walls than with brick and render, increasing internal floor space

Lighter and faster than traditional brick and block façade construction



Fast, simple, economical closure of exterior walls and ceiling soffits

This guide will assist you with the specification of Knauf Aquapanel Exterior – the ideal render carrier board.

Features, benefits, product data and design details are targeted towards helping you find the best solution for your exterior project.

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Dry Construction with Knauf Aquapanel Exterior Systems

Dry construction is already the preferred method for many offsite and onsite projects due to the benefits it brings in reduced timescales, lightweight and thin exterior walls, consistency and improved health and safety.

Knauf Aquapanel Exterior Systems take these benefits to the next stage.

Knauf Aquapanel Exterior Cement Boards provide a solid, dry base that can withstand the extreme weathering effects of wind, rain and snow.

It is an ideal substrate for directly applied render finishes and can be used for exterior walls in ventilated systems, exterior ceilings and soffits.

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

Knauf Aquapanel Exterior is easily curved, allowing for striking architectural features to be formed. It is also ideal for creating exterior soffits and the illusion of an internal ceiling continuing through the façade to the outside of the building.

Exterior cladding

Knauf Aquapanel Exterior is ideal for use on timber frame, timber battens, SIP systems and metal framed structures. It is mechanically fixed to the timber/steel framework and the system build up is then suitable to receive a render, paint or further exterior cladding finishes, such as slip bricks or tiles.

Knauf Aquapanel Exterior provides a fast, high quality and extremely economical alternative to traditional methods of construction.

Exterior ceilings and soffits

Creating seamless exterior ceilings and soffits with Knauf Aquapanel Exterior is simple. It is mechanically fixed to exterior grade steelwork and provides a smooth finish for further decoration.

Knauf Aquapanel Exterior provides an internal ceiling look to the outside of a building in a fast, high quality and extremely economical manner, and its simplicity allows internal ceiling contractors to carry out similar practice for exterior work.





BBA Certified

The Knauf Aquapanel Exterior System has been rigorously tested and certified by the BBA, for use as a ventilated exterior wall panel system on timber frame, SIP systems and steel frame buildings.

The BBA certification process also confirms that the Knauf Aquapanel Exterior System is accepted by NHBC, Premier Guarantee and LABC.

As part of the BBA Certification, the Knauf Aquapanel Exterior System has been assessed for:

- Compliance with building regulations within the UK
- Strength and stability: impact testing
- Behaviour in relation to fire: Knauf Aquapanel Exterior Cement Board has been tested to EN 13501 and gained an A1 rating
- Weather tightness: the system resists the passage of moisture from the ground and from weather
- Durability: the system will have a service life in excess of 30 years

The BBA Certificate also covers:

- Independently verified technical specification, including review of production and quality standards
- Design considerations: a review of the standard installation details
- Installation guidance: basic installation instructions
- Information in relation to Construction (Design and Management) Regulations 2007

For more information, refer to BBA Certificate Number 09/4633 at www.bbacerts.co.uk or contact Knauf Technical Services.

Extract from BBA Certificate No. 09/4633:

NHBC Standards 2008:

"The NHBC accepts the use of the Knauf Aquapanel External 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."

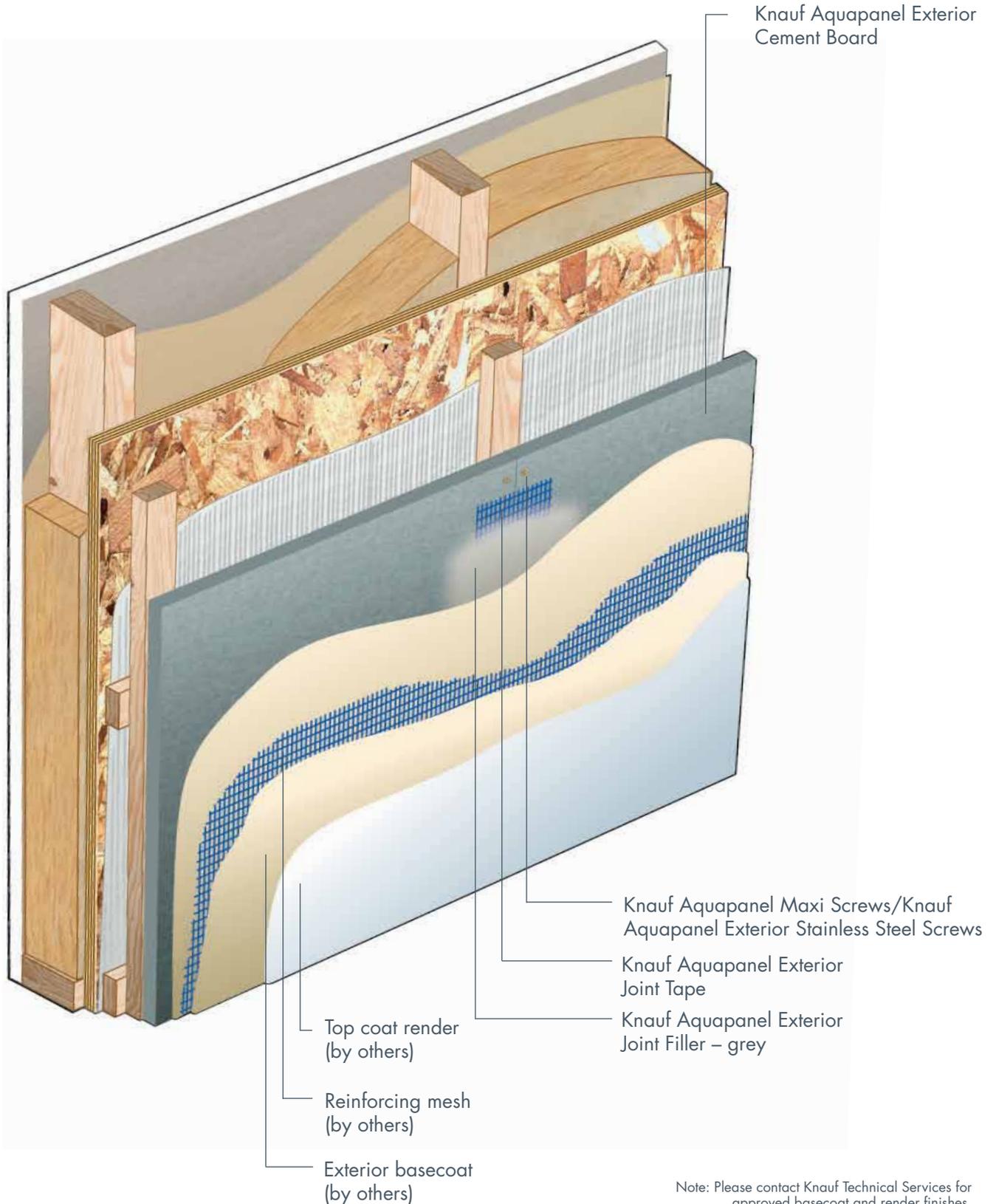
LABC and Premier Guarantee Approval:

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.



Knauf Aquapanel Exterior System

Knauf Aquapanel Exterior Cement Board is used as part of an exterior system for use on timber frame, timber battens, SIP systems and metal framed structures. The system provides a fast, high quality and extremely economical alternative to traditional methods of construction.



Note: Please contact Knauf Technical Services for approved basecoat and render finishes.



Installation Procedure

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.

Corners are protected by applying exterior basecoat, then embedding a corner profile in a similar way to the joint tape.

Reinforce window and door corners with extra pieces of reinforcing mesh, cut to size 50 x 30cm, embedded into exterior basecoat as per corner profiles.

Finishing

Refer to installation instructions from the selected/ specified render supplier, alternatively:

5,6,7 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.

Exterior Render

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

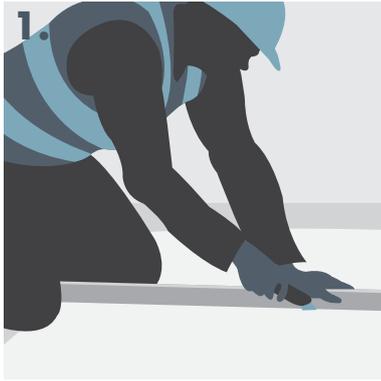
Fully mix the renders before applying them to ensure that the colour is true right through. Apply the chosen exterior finish to each wall area.

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

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.

Contact 01795 416 259 or visit www.knauf.co.uk/training



1. Scoring Knauf Aquapanel Exterior Cement Board with a knife.



2. Fixing the boards to the background members.



3. Embedding Knauf Aquapanel Exterior Joint Tape.



4. Covering screw heads with Knauf Aquapanel Exterior Joint Filler - Grey.



5. Applying notches within basecoat.



6. Applying reinforcing mesh.



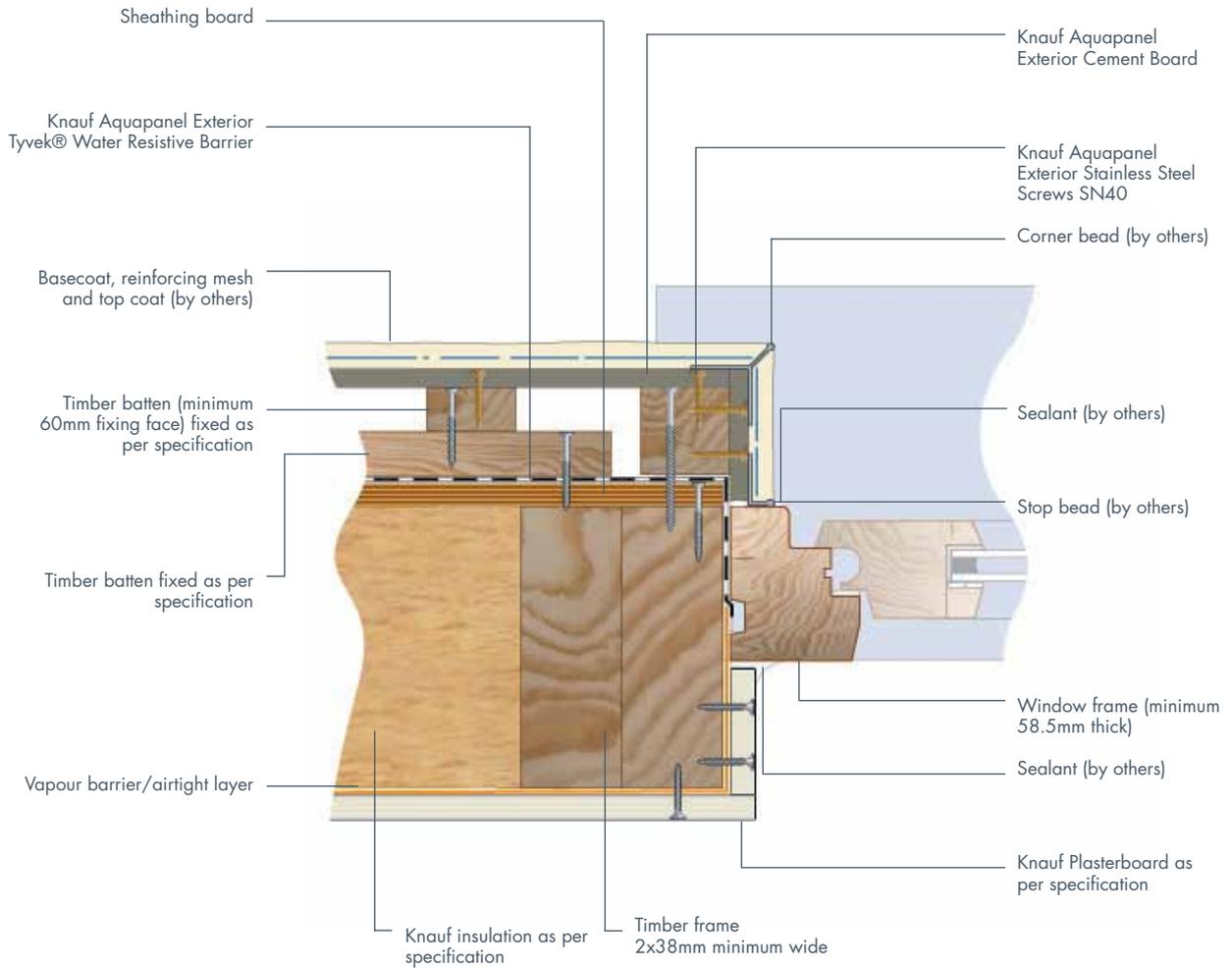
7. Covering mesh with basecoat.



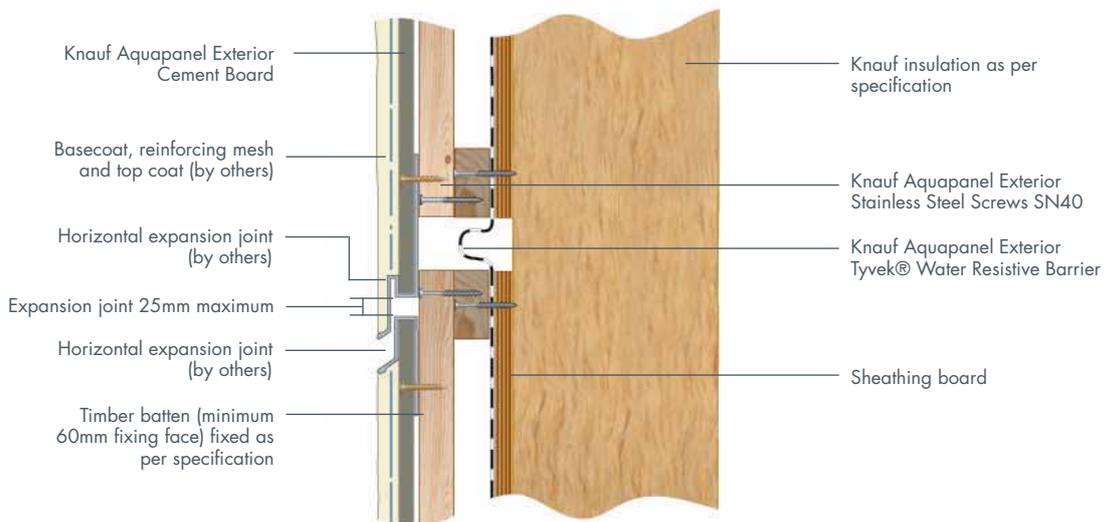
8. Applying finish.

Application Details

Window Jamb – Ventilated Wooden Frame



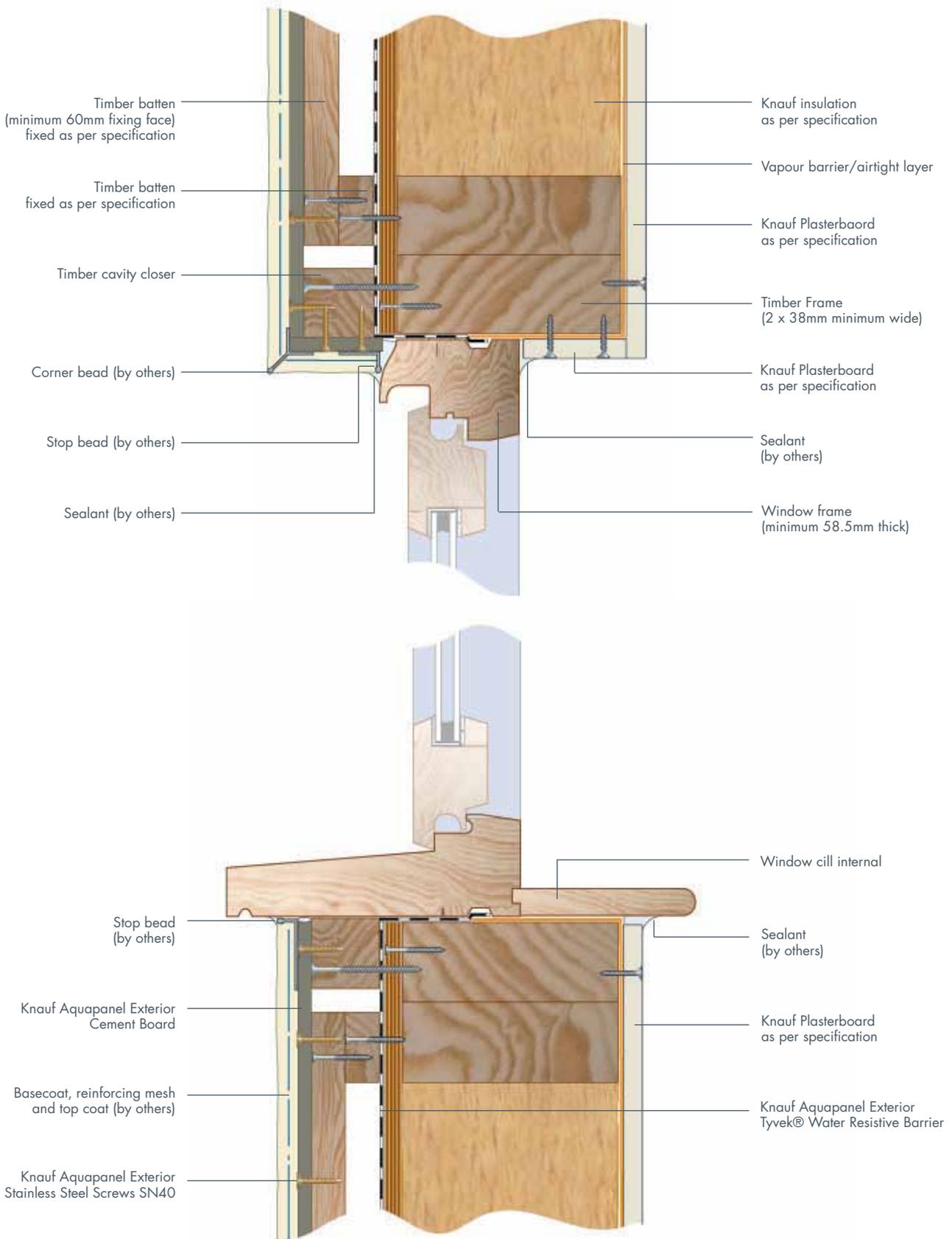
Horizontal Expansion Joint



Note: Horizontal and vertical movement joints required at 15m spans (maximum) or to match movement joints in the substrate behind

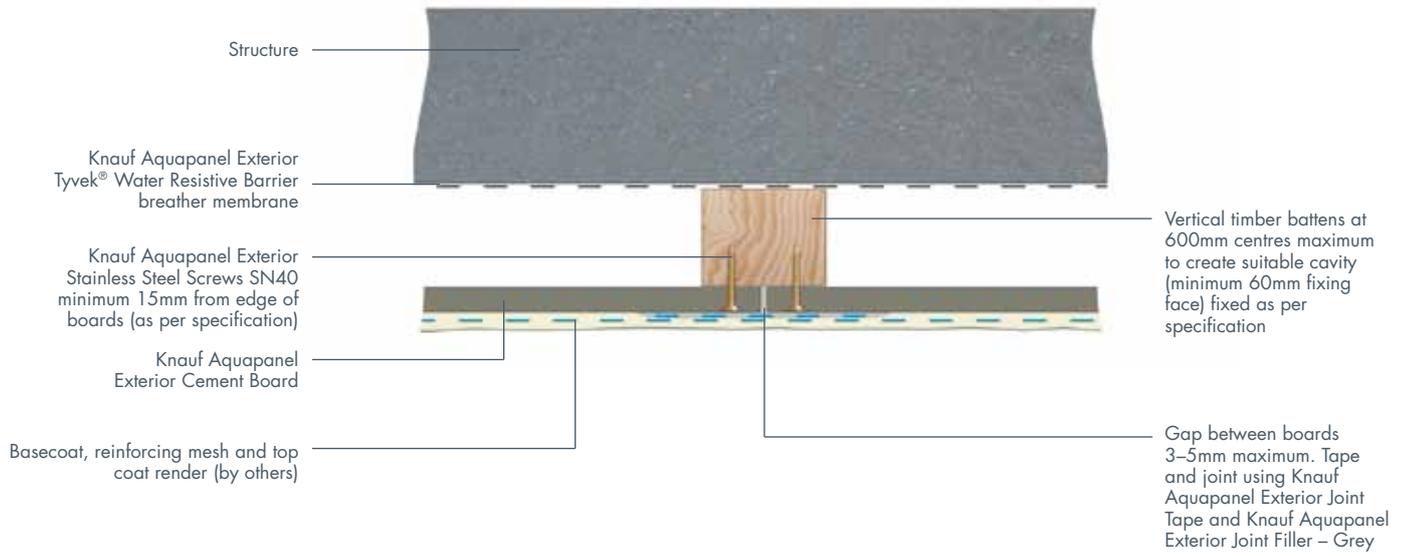
Application Details

Window Reveal (Upper and Lower) – Ventilated Wooden Frame

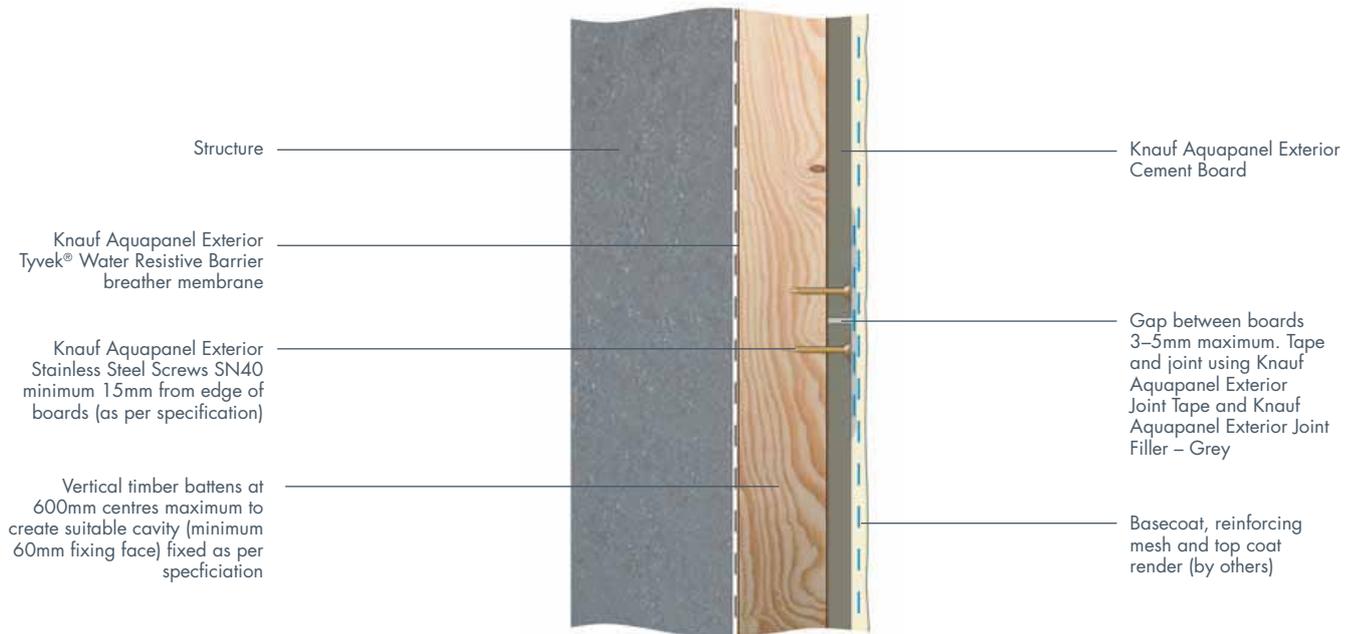


Fixing Details

Vertical Fixing Joint

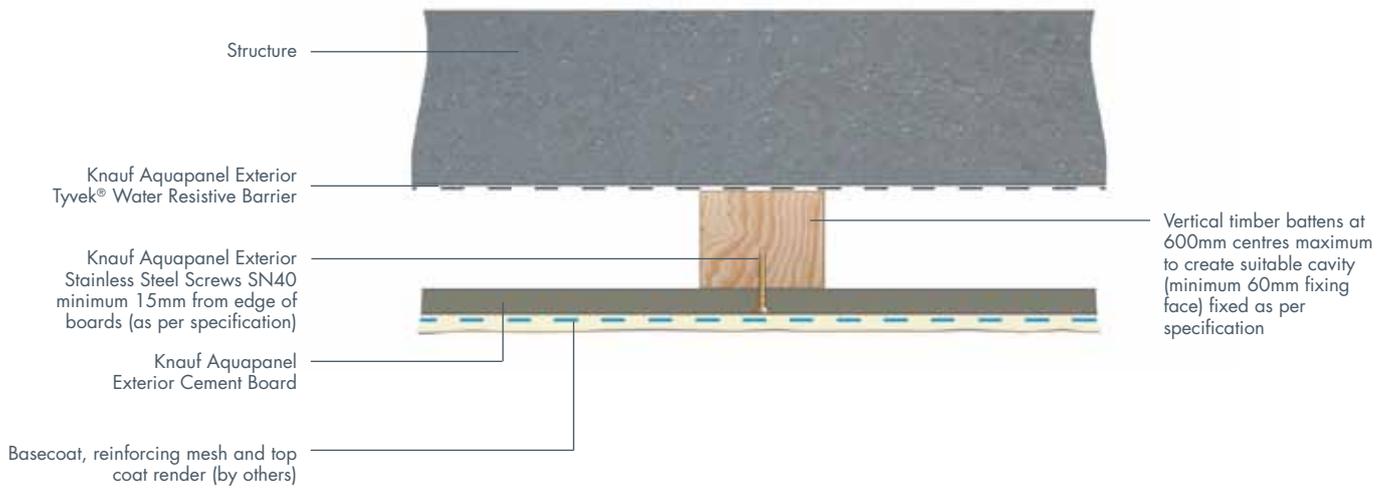


Horizontal Fixing Joint

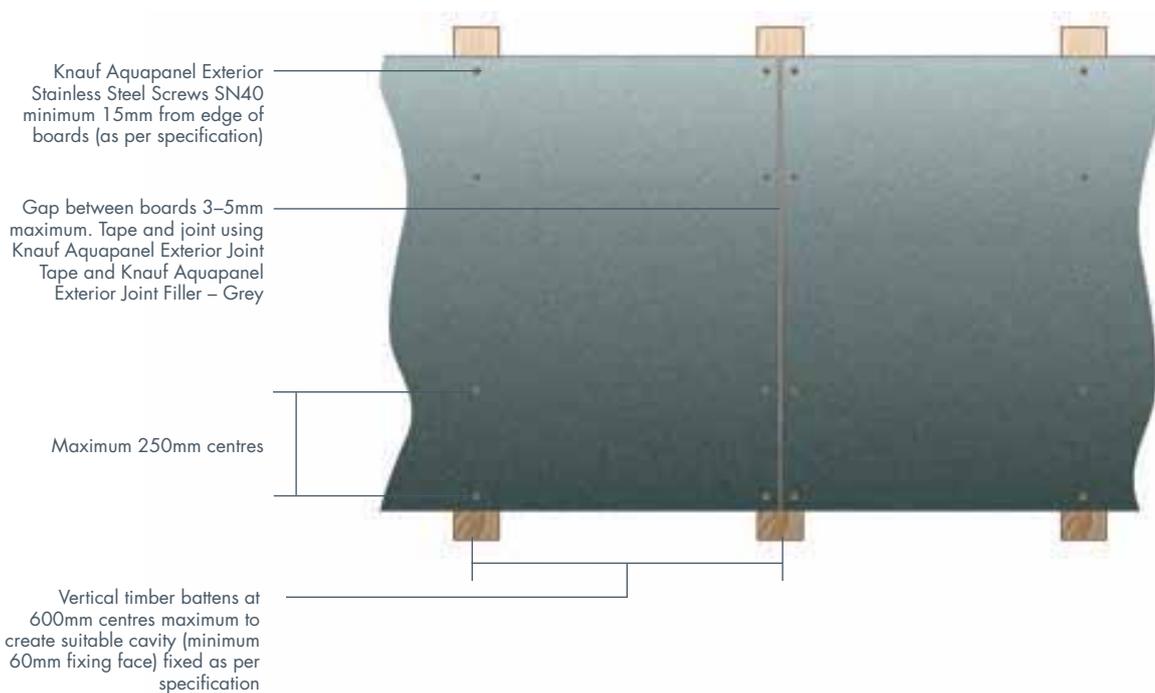


Fixing Details

Intermediate Fixing Detail

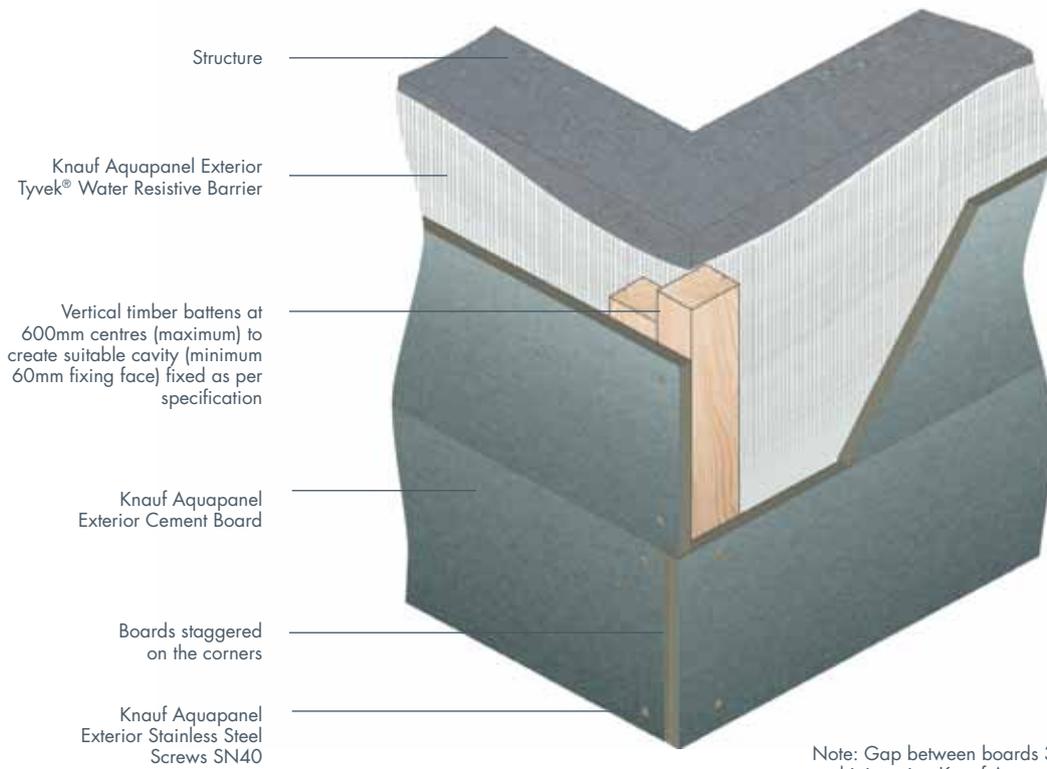


Fixing Spacing Detail

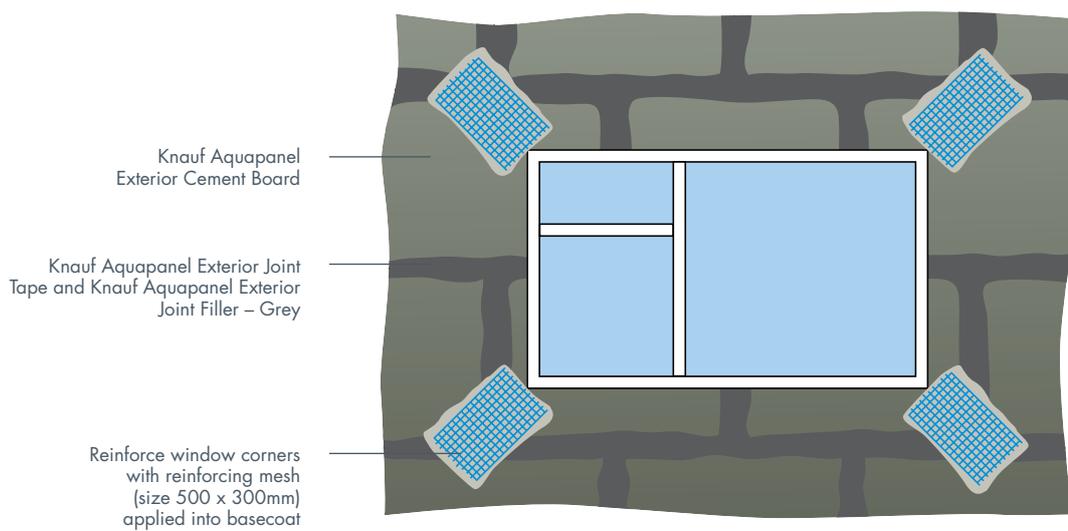


Fixing Details

Corner Boards Staggering Detail



Window Ventilation and Reinforcing Detail



Exterior Soffit Linings

Knauf Aquapanel Exterior 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

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

Seamless and monolithic finish

With Knauf Aquapanel Exterior soffit design you can achieve a smooth, crisp, seamless and monolithic finish and design allowing you to create flat surfaces and a seamless transition from interior to exterior.

Design freedom

Knauf 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. Knauf 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 have a proven freeze-thaw cycle. It has excellent impact resistance, is safe and hygienic. You can specify Knauf Aquapanel Exterior comfortable 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.

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

Once installed, with joints and screwheads filled, Knauf 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.

Ideal for the following:

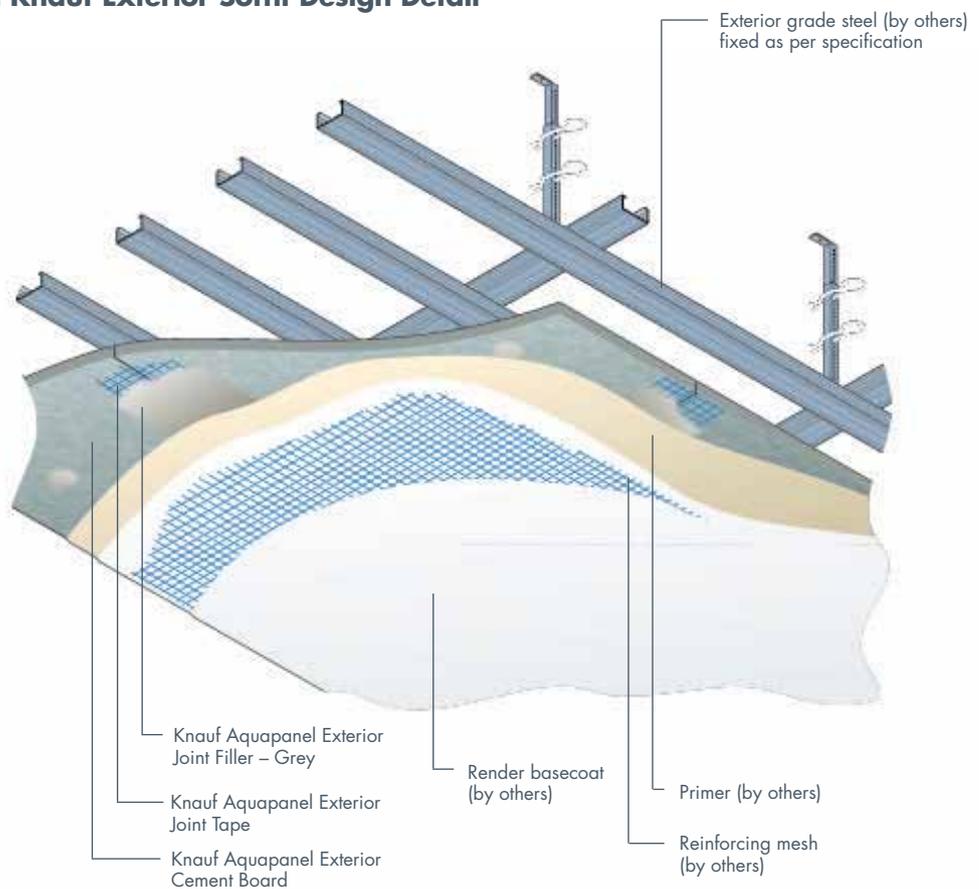
- Cantilevers
- Soffits
- Underpasses
- Underground car parks
- Balconies
- Tunnels

Other Knauf Aquapanel systems

- **Wet Area Partitions**
- **Tiled Floor Linings**
- **Exterior Cladding**

For further information call 08700 613 700 or visit www.knauf.co.uk

Typical Knauf Exterior Soffit Design Detail



Note: Movement joints are required at 15m spans (maximum.) or to match movement joints in the substrate behind.

Further information: Timber framework can also be used. Contact Knauf for full project specification support.

Knauf Aquapanel Exterior

Boards and Accessories

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.



Dimensions (mm)			Material No	Pallet Details		
Thickness	Width	Length		Boards	m ²	Tonnes (Approx.)
12.5	900	1200	63117	50	54.0	0.87
12.5	900	2400	457318	30	64.8	1.04

Knauf Aquapanel Maxi Screws (SN)

Corrosion protected screws for fixing Knauf Aquapanel Cement Board 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.



Dimensions (mm)		Material No	Carton Details	
Length	Diameter		Items per Carton	Kg (Approx.)
25	4.2	87319	1000	1.8
39	4.2	53500	500	2.0
55	4.2	95644	250	2.0

Knauf Aquapanel Maxi Screws (SN) Collated

Collated 39mm screws. Each pack has 10 belts with 100 screws per belt.



Dimensions (mm)		Material No	Carton Details	
Length	Diameter		Items per Carton	Kg (Approx.)
39	4.2	87317	1000	3.0

Knauf Aquapanel Exterior Maxi Screws (SB)

Aquapanel Exterior Maxi Screws have been specially developed for fixing Knauf Aquapanel Exterior onto heavy gauge steel profiles (0.8mm – 2.0mm) as part of the Knauf Aquapanel Exterior system. They have a drill point and countersunk heads.



Dimensions (mm)		Material No	Carton Details	
Length	Diameter		Items per Carton	Kg (Approx.)
25	4.2	94730	250	1.5

Knauf Aquapanel Exterior Stainless Steel Screws (SN)

40mm stainless steel screws specially developed for fixing Knauf Aquapanel Exterior to timber substructures.



Dimensions (mm)		Material No	Carton Details	
Length	Diameter		Items per Carton	Kg (Approx.)
40	4	87197	250	0.7

Knauf Aquapanel Exterior Stainless Steel Screws (SB) Jackpoint

40mm self-drilling stainless steel screws for fixing Aquapanel Exterior to aluminium substructures.



Dimensions (mm)		Material No	Carton Details	
Length	Diameter		Items per Carton	Kg (Approx.)
40	4	424110	250	0.7

Knauf Aquapanel Exterior

Boards and Accessories

Knauf Aquapanel Exterior Joint Filler – Grey

Knauf Aquapanel Exterior Joint Filler – Grey is a cement-based material for filling joints and embedding Knauf Aquapanel Exterior Joint Tapes and Knauf Aquapanel Exterior Reinforcing Mesh as part of the Aquapanel Exterior system.



Bag Size		Material No	Pallet Details	
Length (m)	Width (mm)		Bags	Tonnes (Approx.)
20		131094	48	1.0

Estimating Guide: One bag will cover approximately 28m²

Knauf Aquapanel Exterior Joint Tape

Knauf Aquapanel Exterior Joint Tape is a 100mm wide, glass fibre tape with an alkaline-resistant coating. It is embedded into Knauf Aquapanel Exterior Joint Filler to reinforce exterior joints as part of the Aquapanel Exterior system.



Roll Size		Material No	Carton Details	
Length (m)	Width (mm)		Rolls per Carton	Kg (Approx.)
50	100	429471	12	4

Estimating Guide: 2.1m²/m²

Knauf Aquapanel Exterior Reinforcing Tape

Knauf Aquapanel Exterior Reinforcing Tape is a 200mm wide meshed glass fabric. It is embedded in Knauf Aquapanel Exterior Joint Filler to reinforce exterior joints where paint or alternative finishes are to be applied on top of the basecoat, as part of the Aquapanel Exterior system.



Roll Size		Material No	Carton Details	
Length (m)	Width (mm)		Rolls per Carton	Kg (Approx.)
50	200	424086	12	10

Estimating Guide: 2.1m²/m²

Knauf Aquapanel Exterior Reinforcing Mesh

Knauf Aquapanel 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.



Roll Size		Material No	Pallet Details	
Length (m)	Width (mm)		Rolls per Pallet	Kg (Approx.)
50	100	102584	25	375

Estimating Guide: 1.1m²/m²

Knauf Aquapanel Exterior Tyvek® Water Resistive Barrier

Knauf Aquapanel Exterior Tyvek® Water Resistive Barrier is a special climatic membrane to be used as a water barrier from the outside to the inside, and allows vapour diffusion from the inside to the outside. It is used in water managed (directly applied) systems, installed as a water-carrying layer directly behind the board as part of the Knauf Aquapanel Exterior system.



Roll Size (m)		Material No	Pallet Details	
Length (m)	Width (mm)		Rolls per Pallet	Kg (Approx.)
75	1500	438378	16	0.8

Estimating Guide: 1.1m²/m²

Support

Quality

The Knauf Group is one of the largest drywall manufacturers in the World with a group turnover in excess of €2.5billion. 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.

Project and Specification Managers

Our national team of Project & Specification Managers (PSMs) 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 416 259 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 416 259 for technical advice

Supporting Online Tools

Knauf website

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.

manual.knauf.co.uk

Knauf Drywall Partition Specifier

How would you like to specify and value engineer all the drywall 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.

partitionspecifier.knauf.co.uk

O&M Manual

In just a few minutes, you can create your own comprehensive Operations and Maintenance manual for the Knauf products and systems used in your projects. The finished O&M manual will be created in pdf format and can be printed out or saved for future use.

omm.knauf.co.uk

BB93 Calculator

Makes specifying for schools easy. Simply choose the source and receiving rooms and enter the required data in the spaces provided.

manual.knauf.co.uk





Case Study: Kensington Cinema

The transformation of an Edwardian Art Deco cinema to a strikingly stylish Modernist home. Knauf Aquapanel Exterior Cement Boards were used as the render carrier board, enabling project progression despite inclement weather delaying the render application.

Viewers of the Channel 4 series *Grand Designs* saw rather more of Knauf Aquapanel Exterior Cement Boards' weatherproofing properties than the construction schedule had intended, observed builder Richard Wilson of Wilson Construction. "We had a very cold spell that lasted eight weeks so we couldn't render the boards but we chose it because we knew it would withstand exposure to the elements which is a constant problem when you're building in this country," he said.

This was the first time that Richard had used the Aquapanel product and he was impressed enough to use it on his next job – building a timber-framed extension to a pub in York. "It's a good, durable, simple system and the boards are easy to work with," he said.

Richard worked on every aspect of integrating the cinema's elegant Art Deco façade with the radically Modernist concrete construction that formed the family living area. The Kensington Palace Cinema in Thorne, near Doncaster in South Yorkshire, opened in 1927 and then followed the usual path to dilapidation, becoming a bingo hall in the 1960s and then a night club, before being left to rot in 1998.

When Gwyn ap Harri bought the building in 2011 it was a shell which demolished to make way for a home featuring boarded concrete walls and polished concrete floors. Now fully refurbished as part of the residential conversion, the art deco style façade provides an impressive front elevation for the family's new build house. *Grand Designs'* presenter, Kevin McCloud, described it as "Hollywood Hills comes to South Yorkshire."

Knauf Aquapanel Exterior was a crucial part of that journey as it combines the benefits of a dry panel system with the strength of brick and block and, because it consists of aggregated Portland cement with coated glass fibre mesh embedded in back and front surfaces, provides the ideal key for render.



The new design involved demolishing most of the rear of the building but, where existing walls were retained, Aquapanel Exterior enabled the builders to improve the building's thermal performance to modern standards without making its footprint substantially bigger.

In effect Richard and his staff retro-fitted a timber-frame to the external skin of the building, creating a cavity between the wall and sheathing which was filled with insulating material. Aquapanel Exterior was then fitted onto the sheathing board via timber battens in the timber frame studs and then rendered to create a seamless decorative finish.

Project Data

Project

Kensington Cinema – Thorne, South Yorkshire

Architect

Jeremy Southgate

Contractor

Wilson Construction





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Kent

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Immingham
N.E. Lincolnshire



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