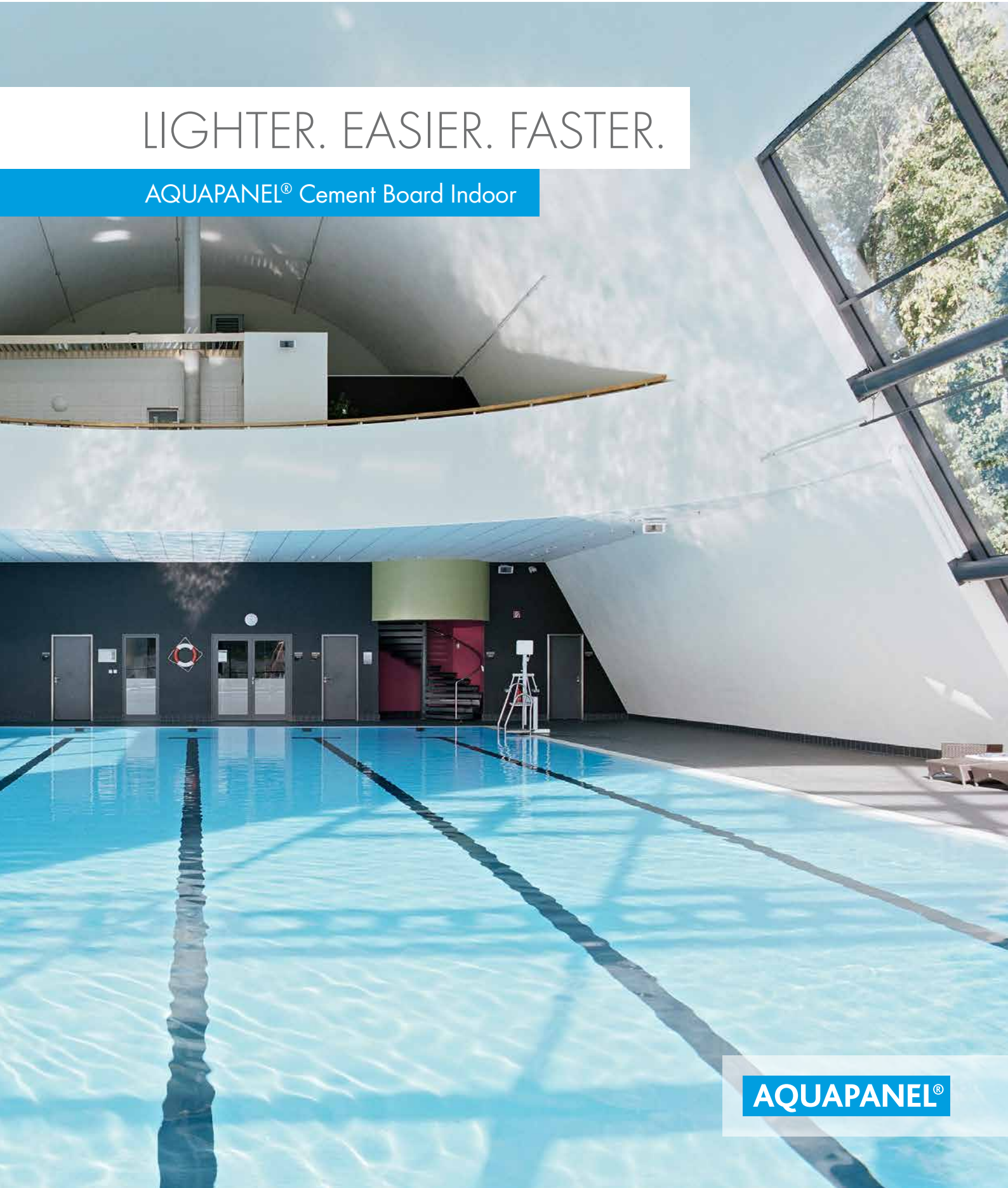




LIGHTER. EASIER. FASTER.

AQUAPANEL® Cement Board Indoor



AQUAPANEL®



# AQUAPANEL® CEMENT BOARD INDOOR

Redefining expectations for building walls and ceilings in wetroom areas

Representing modern drylining technology, AQUAPANEL® is one of the leading premium cement boards, helping change the way people build, and the way buildings look and perform. Designed for interior walls and ceilings, AQUAPANEL® Cement Board Indoor is a key part of the range – enhancing the work of architects and installers alike.

It's the perfect board for exceptionally light performance, reliability and stability even in the most challenging wet and humid conditions for both wall and ceiling applications – making it ideal for everything from swimming

pools and steam saunas to communal showers and kitchen areas.

Manufactured from inorganic materials and highly resistant to water and mould, AQUAPANEL® Cement Board Indoor weighs only 11 kg per square metre – making it easy to handle and fast to install. With outstanding flexibility compared to alternative products, it is suitable for use with curved walls and ceilings too.

Created for the next generation of imaginative, sustainable buildings, AQUAPANEL® Cement Board Indoor is changing the way the world builds.



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## Expectations. Redefined.

AQUAPANEL® Cement Board Indoor draws on our pioneering technology and the partnerships we build with our customers to deliver world-changing innovation in construction. By changing the way people build, we're redefining expectations for what can be achieved in wet and humid conditions – and making the whole process lighter, easier and faster.



Only 11 kg/m<sup>2</sup> for exceptionally light performance, AQUAPANEL® Cement Board Indoor saves effort in transportation and handling – while still delivering dimensional stability, reliability and best-in-class performance in the wet.



With a bending radius of 1 m, without needing to cut strips, AQUAPANEL® Cement Board Indoor provides unlimited design freedom for curved walls in everything from swimming pools to showers. Simple to score and snap, it's also easy to install.



As easy to use as gypsum board, the light cement board means faster installation, higher productivity and increased profitability at all stages of a construction project – even in the most challenging wet areas.



# FEATURES AND BENEFITS

Aggregated Portland cement board with coated glass fibre mesh embedded in back and front surfaces. Ends are square cut, and edges reinforced and finished smoothly (EasyEdge™).



## Performance

- › 100% water-resistant
- › Mould and mildew-resistant
- › Non-combustible (A1) – EN 13501-1
- › Robust and reliable with high impact resistance and sound insulation
- › Safe to use, hygienic and manufactured from natural materials

## Processing/Installation

- › Only 11 kg/m<sup>2</sup> – meaning less effort in handling, including overhead installation
- › Easy to cut using a simple score-and-snap technique
- › No pre-drilling required
- › Bending radius of 1 m at full board size

## Finishing

- › Ready keyed for tiling – only one layer required for tile finish
- › Supports tiling up to 50 kg/m<sup>2</sup>
- › Surface qualities up to Q4-level can be achieved

## Application fields

AQUAPANEL® Cement Board Indoor is perfect for wall and ceiling applications in wet and humid areas in a range of buildings, from sports halls and gymnasiums to schools, museums, hospitals and public buildings, as well as luxury hotels and apartments. The wide range of applications include:

- › Communal/Public showers and bathroom areas
- › Changing rooms
- › Swimming pools and hot tubs
- › Wellness areas and spa suites
- › Steam saunas
- › Operating theaters
- › Industrial kitchens

## Properties and dimensions

Thickness (mm)	12.5		
Weight (kg/m <sup>2</sup> )	Approx. 11		
Width (mm)	900	1200	1250
Length (mm)	1200/ 1250/ 2400/ 2500	900/ 2000/ 2400/ 2500/ 2600/ 2800/ 3000	900/ 2000/ 2500/ 2600

### A reliable, robust system for wet and humid areas

Dampness is the principal cause of structural damage. Water appears in a construction as:

- › Standing and flowing water
- › Capillary water
- › Dripping water
- › High relative air humidity

In many areas of the construction, the ability to withstand damp and water is critical for the quality and durability of a building unit, for example, in all domestic and commercial wet areas, in laboratories, kitchens, swimming pools and saunas.

Protection from damp is also important in cellars and garages because these building units are often at risk from masonry damp or ground damp. Construction materials for these areas must meet a variety of requirements and display the following characteristics:

- › Water resistance and dimensional stability of the material
- › Resistance to mould formation
- › Moisture vapour permeability for optimum indoor climate

AQUAPANEL® Cement Board Indoor is the ideal building panel for such areas.

AQUAPANEL® Cement Board Indoor is water-resistant. Under water impact, AQUAPANEL® Cement Board Indoor displays extremely slight and system-safe changes in form. The cement board changes neither its structural cohesion nor its static characteristics. AQUAPANEL® Cement Board Indoor is resistant to mould growth and is therefore also suitable for use in areas where there is a high level of damp. Altogether, this robustness, resistance and reliability in performance makes AQUAPANEL® Cement Board Indoor perfect for both walls and ceilings in wet environments.

## CERTIFICATIONS OF AQUAPANEL® CEMENT BOARD INDOOR

### CE Marking

AQUAPANEL® Cement Board Indoor complies with EN 12467 Category C, Class 2.



### Safety against ball throwing

The W382 wall system and the D282 ceiling system (see pages 20-23) with AQUAPANEL® Cement Board Indoor have been tested for limited safety against ball throwing according to standard DIN 18032-3 [1]. The systems passed the handball test without deterioration or damaging and therefore have been officially certified by the Materials Testing Institute, University of Stuttgart (MPA).






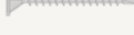








### Safe and hygienic solution






AQUAPANEL® Cement Board Indoor is 100% water-resistant and completely inorganic, so there is no risk of mould or mildew. It meets the highest requirements for a safe and hygienic environment inside the building – as certified by the German Building Biological Institute Rosenheim (IBR).



# SYSTEM OVERVIEW – ACCESSORIES

Fastening					Length (mm)	Packaging		
AQUAPANEL® Maxi Screw SN25		<p>➤ AQUAPANEL® Maxi Screws have been specially developed for fixing AQUAPANEL® Cement Board onto timber and metal frameworks of differing thicknesses. Nail tip (SN) and drill tip (SB) versions with countersunk head are available. All AQUAPANEL® Maxi Screws have a special corrosion-proof coating, which provides a guaranteed 720 hours' corrosion resistance in a salt spray test.</p> <div>Scan for datasheet</div> 			25	1000 pieces/carton		
AQUAPANEL® Maxi Screw SN39					39	500 pieces/carton		
AQUAPANEL® Maxi Screw SN55					55	250 pieces/carton		
AQUAPANEL® Maxi Screw SB25					25	250 pieces/carton		
AQUAPANEL® Maxi Screw SB39					39	250 pieces/carton		
Material of substructure		Timber framework		Steel framework				
Metal thickness		-		0.6mm ≤ x ≤ 1.0 mm		1.0mm < x ≤ 2.0 mm		
Amount of board layers		Single layer	Double layer	Single layer	Double layer	Triple layer	Single layer	Double layer
AQUAPANEL® Maxi Screw SN25				x				
AQUAPANEL® Maxi Screw SN39		x		x	x			
AQUAPANEL® Maxi Screw SN55			x			x		
AQUAPANEL® Maxi Screw SB25							x	
AQUAPANEL® Maxi Screw SB39							x	x

Joint treatment			Coverage	Packaging
AQUAPANEL® Joint Adhesive (PU)		<p>➤ AQUAPANEL® Joint Adhesive (PU) is used for wall applications to bond individual AQUAPANEL® Cement Board Indoor panels.</p> <p>➤ Cartridge contents sufficient for: Approx. 6.5 m² (panel size 900 x 1250 mm) Approx. 10 m² (panel size 1250 x 2000 mm; 1250 x 2600 mm)</p> <div>Scan for datasheet</div> 	Approx. 50 ml/m² (approx. 25 ml/m joint)	310 ml/cartridge  20 cartridges/carton
AQUAPANEL® Joint Filler & Skim Coating – white		<p>➤ AQUAPANEL® Joint Filler &amp; Skim Coating – white is a cement-bound filling material for full-surface skim coating on AQUAPANEL® Cement Board, for example before the application of a decorative plaster or paint finish. AQUAPANEL® Reinforcing Mesh must be embedded.</p> <p>➤ AQUAPANEL® Joint Filler &amp; Skim Coating – white can be also used for filling joints between panels. AQUAPANEL® Tape (10 cm) must be embedded.</p> <p>➤ Note: Machine processing is possible with PFT RiTMO (230 V) (A3-2L pump unit, SWiNG sprayer, LK 402 air compressor).</p> <div>Scan for datasheet</div> 	Joint treatment: 0.7 kg/m²  Full-surface skim coating: approx. 2.8 kg/m²  coating depth: 4 mm	20 kg/bag
AQUAPANEL® Tape (10 cm)		<p>➤ AQUAPANEL® Tape (10 cm) is a glass fibre tape with an alkali-resistant coating. It is used to reinforce joints. Must be embedded in AQUAPANEL® Joint Filler &amp; Skim Coating – white.</p> <div>Scan for datasheet</div> 	Approx. 2.1 m/m²	10 cm wide roll, 20 m long 18 rolls/carton  10 cm wide roll, 50 m long 12 rolls/carton

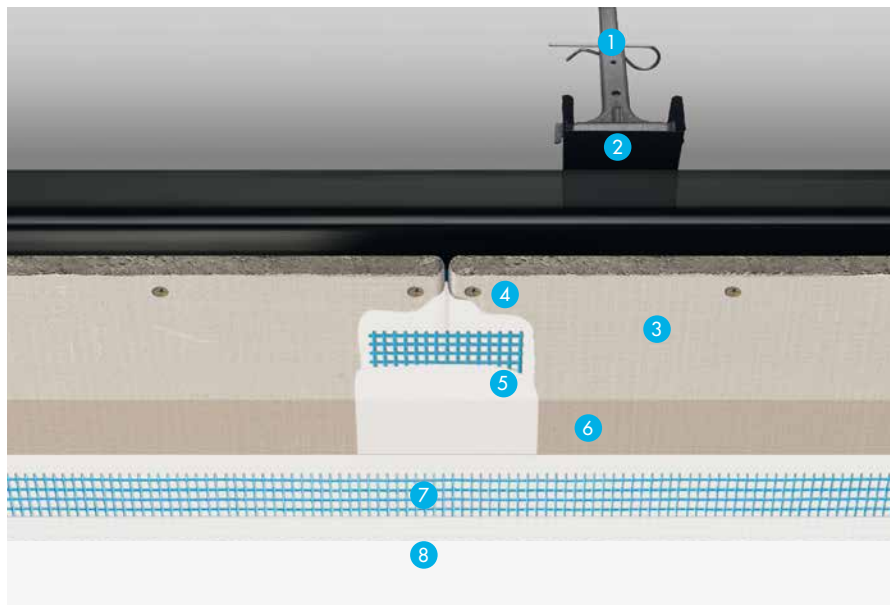
Priming				Coverage	Packaging
<b>AQUAPANEL® Board Primer</b>		<ul style="list-style-type: none"> <li>› AQUAPANEL® Board Primer is a ready-to-use synthetic dispersion for priming AQUAPANEL® Cement Board Indoor panels to provide maximum adhesion of tiles and plasters.</li> </ul>	Scan for datasheet 	Approx. 40-60 g/m <sup>2</sup>  Dilution: 1:2 (primer : water)	15 kg/pail 2.5 kg/pail
Surface finishing				Coverage	Packaging
<b>AQUAPANEL® Reinforcing Mesh</b>		<ul style="list-style-type: none"> <li>› AQUAPANEL® Reinforcing Mesh is a glass fibre fabric used to reinforce AQUAPANEL® Joint Filler &amp; Skim Coating – white.</li> </ul>	Scan for datasheet 	Approx. 1.1 m/m <sup>2</sup>	100 cm wide roll, 50 m long 30 rolls/pallet
<b>AQUAPANEL® Q4 Finish</b>		<ul style="list-style-type: none"> <li>› AQUAPANEL® Q4 Finish is a ready-to-use and water-repellent skim coat for high-quality finely finished surfaces up to Q4 standard. For application above a tiled area directly onto the primed boards or as an all over skim-coating onto AQUAPANEL® Joint Filler &amp; Skim Coating – white with AQUAPANEL® Reinforcing Mesh.</li> <li>› Note: If used above a tiled area, use Knauf glass fibre cover strips to reinforce the board joints.</li> </ul>	Scan for datasheet 	Approx. 1.7 kg/m <sup>2</sup> /mm coating depth	20 kg/pail
Additional accessories				Dimensions	Packaging
<b>AQUAPANEL® Traverse M 625*</b>  * Not suitable for ceiling application.		<ul style="list-style-type: none"> <li>› AQUAPANEL® Traverses are used for fitting wall-mounted loads up to 1.5 kN/m (e.g. mounting bolts, shelving, handrails) onto drylining walls made with AQUAPANEL® Cement Board Indoor panelling. They are resistant to alkalis and moisture and are available with (MH type) or without (M type) timber insert.</li> <li>› M type: Without impregnated timber insert</li> </ul>	Scan for datasheet 	Height: Approx. 290 mm Plate thickness: 0.75 mm with special corrosion protection layer	according to request
<b>AQUAPANEL® Traverse MH 625*</b>  * Not suitable for ceiling application		<ul style="list-style-type: none"> <li>› MH type: With core-impregnated MDF filler, approx. 18 mm thick</li> </ul>	Scan for datasheet 	Height: Approx. 290 mm Plate thickness: 0.75 mm with special corrosion protection layer	according to request
<b>AQUAPANEL® Access Door Splash Water Protection</b>		<ul style="list-style-type: none"> <li>› AQUAPANEL® Access Doors can be installed in partition and plumbing walls built with AQUAPANEL® Cement Board Indoor. They are easy to install and safe to handle.</li> <li>› Multi purpose model for wall and ceiling applications as well as for single and double-layer planking</li> </ul>	Scan for datasheet 	Available sizes: 3 m x 3 m 4 m x 4 m 5 m x 5 m 6 m x 6 m Thickness 12.5 mm	1 piece/carton
<b>AQUAPANEL® Access Door Humid Rooms</b>		<ul style="list-style-type: none"> <li>› AQUAPANEL® Access Doors can be installed in partition and plumbing walls built with AQUAPANEL® Cement Board Indoor. They are easy to install and safe to handle.</li> </ul>	Scan for datasheet 	Available sizes: 3 m x 3 m 4 m x 4 m 5 m x 5 m 6 m x 6 m Thickness 12.5/25 mm	1 piece/carton
<b>AQUAPANEL® Access Door Humid Rooms with coating edge 5 mm</b>		<ul style="list-style-type: none"> <li>› AQUAPANEL® Access Doors can be installed in partition and plumbing walls built with AQUAPANEL® Cement Board Indoor. They are easy to install and safe to handle.</li> </ul>	Scan for datasheet 	Available sizes: 3 m x 3 m 4 m x 4 m 5 m x 5 m 6 m x 6 m Thickness 12.5 mm	1 piece/carton

# SYSTEM SOLUTIONS

A technologically advanced building system that perfectly integrates with the whole range of Knauf products and accessories, AQUAPANEL® Cement Board Indoor has been designed to be the ultimate solution for wetrooms and other wet or humid areas.

## INTERIOR CEILINGS

Suitable for indoor areas of high humidity including wetrooms. As in wall applications, AQUAPANEL® Cement Board Indoor can use single or double planking for ceilings, depending on fire and sound requirements. See construction overview (p.22-23) for details.



### EXAMPLE OF CEILING BUILD-UP

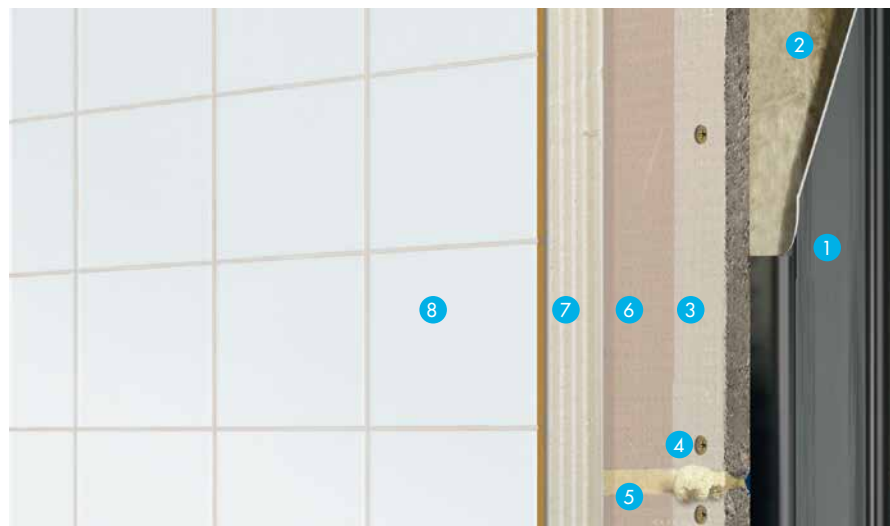
1. Nonius Hanger\*
2. Knauf CD60/27\*  
corrosion-resistant metal profile
3. AQUAPANEL® Cement Board Indoor
4. AQUAPANEL® Maxi Screw
5. AQUAPANEL® Tape (10 cm)  
embedded in AQUAPANEL®  
Joint Filler & Skim Coating – white
6. AQUAPANEL® Board Primer
7. AQUAPANEL® Joint Filler &  
Skim Coating – white and  
AQUAPANEL® Reinforcing Mesh
8. Paint

\* Minimum corrosion protection C3

## INTERIOR WALLS

Robust, impact resistant and 100% water-resistant for reliable performance. For wall applications, single and double planking is possible, depending on project-specific fire protection and sound insulation requirements. See construction overview (p.20-23) for details.

### Interior walls with tiles



### EXAMPLE OF WALL BUILD-UP

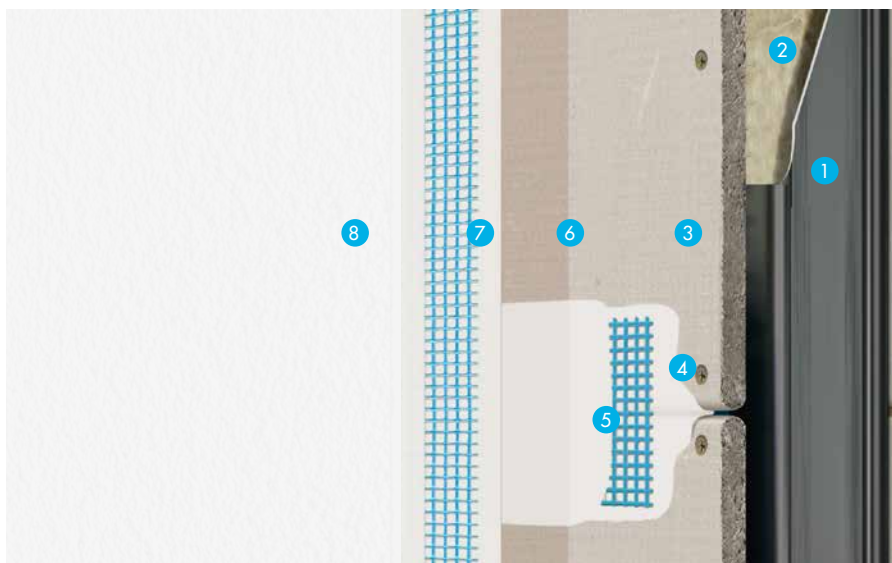
1. Knauf CW corrosion-resistant metal profile\*
2. Knauf insulation materials
3. AQUAPANEL® Cement Board Indoor
4. AQUAPANEL® Maxi Screw
5. AQUAPANEL® Joint Adhesive (PU)\*\*
6. AQUAPANEL® Board Primer
7. Flexible tile adhesive
8. Tiles

\* Minimum corrosion protection C3

\*\* The type of joint treatment is independent of the finishing method (also possible: AQUAPANEL® Tape (10 cm) embedded in AQUAPANEL® Joint Filler & Skim Coating – white).



## Interior walls with render and paint finish



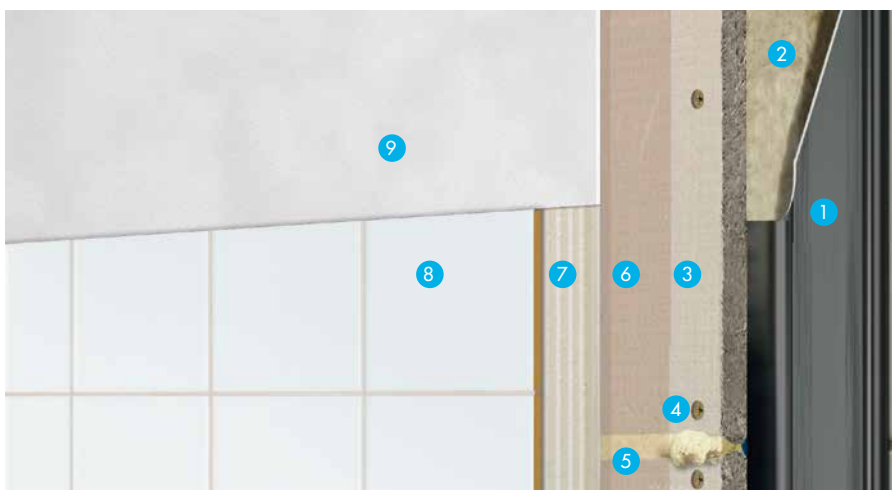
### EXAMPLE OF WALL BUILD-UP

1. Knauf CW corrosion-resistant metal profile\*
2. Knauf insulation materials
3. AQUAPANEL® Cement Board Indoor
4. AQUAPANEL® Maxi Screw
5. AQUAPANEL® Tape (10 cm) embedded in AQUAPANEL® Joint Filler & Skim Coating – white\*\*
6. AQUAPANEL® Board Primer
7. AQUAPANEL® Joint Filler & Skim Coating – white and AQUAPANEL® Reinforcing Mesh
8. Paint

\* Minimum corrosion protection C3

\*\* The type of joint treatment is independent of the finishing method (also possible: AQUAPANEL® Joint Adhesive PU).

## Interior walls with tiles & Q4 Finish



### EXAMPLE OF WALL BUILD-UP

1. Knauf CW corrosion-resistant metal profile\*
2. Knauf insulation materials
3. AQUAPANEL® Cement Board Indoor
4. AQUAPANEL® Maxi Screw
5. AQUAPANEL® Joint Adhesive (PU)\*\*
6. AQUAPANEL® Board Primer
7. Flexible tile adhesive
8. Tiles
9. AQUAPANEL® Q4 Finish

\* Minimum corrosion protection C3

\*\* The type of joint treatment is independent of the finishing method (also possible: AQUAPANEL® Tape (10 cm) embedded in AQUAPANEL® Joint Filler & Skim Coating – white).

## Interior walls with Q4 Finish



### EXAMPLE OF WALL BUILD-UP

1. Knauf CW corrosion-resistant metal profile\*
2. Knauf insulation materials
3. AQUAPANEL® Cement Board Indoor
4. AQUAPANEL® Maxi Screw
5. AQUAPANEL® Joint Adhesive (PU)\*\*
6. AQUAPANEL® Board Primer
7. AQUAPANEL® Joint Filler & Skim Coating – white and AQUAPANEL® Reinforcing Mesh
8. AQUAPANEL® Q4 Finish

\* Minimum corrosion protection C3

\*\* The type of joint treatment is independent of the finishing method (also possible: AQUAPANEL® Tape (10 cm) embedded in AQUAPANEL® Joint Filler & Skim Coating – white).



## 100% WATER- RESISTANT

Superb for swimming pools

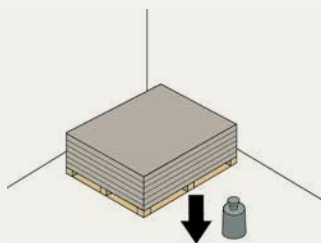
- › Effortlessly handles splash, spray and even the highest humidity with no expansion or warping.
- › Eliminates humidity and thermal-related expansion, which could otherwise cause tiles to crack or loosen.
- › Compatible with acoustic ceiling plaster to absorb noise – perfect for swimming pools.

# PRODUCT HANDLING

## Boards



- › Always carry the boards upright, or use board rollers. Handle with fork lift or crane as palletted goods. Take care not to damage corners and edges when setting the boards down. Place boards down on their long edge before laying them flat.



- › Ensure that the base is strong enough to support the boards.



- › Protect boards from moisture and weathering before they are installed. Boards which have become damp must be dried on both sides on a flat surface prior to fitting. Before installing, condition the boards to the ambient temperature and humidity.

## Profiles

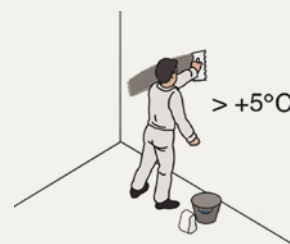


- › Protect profiles from moisture and weathering before they are installed. Products should not be left permanently exposed to the elements.

## Powder materials



- › Store bags in a dry place and in original packaging.



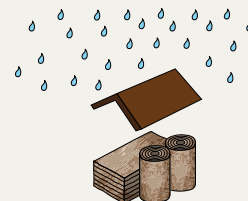
- › Do not apply joint fillers, basecoat or finishing materials in temperatures less than +5°C.

## Health and safety

- › Avoid unnecessary dust on job site when using electrical saw. Keep sanding and other dust generation to a minimum. Maintain adequate ventilation and/or wear suitable protection.
- › Exercise care when using power tools and take all necessary precautions.
- › Follow instructions on packaging when applying system accessories.
- › When using powdered products, mix with water in well-ventilated conditions. Avoid contact with eyes and skin. In the event of contact with the eyes, irrigate with plenty of clean water immediately.
- › When handling insulation or cutting boards which contain glassfibre, wear suitable protection including face mask and gloves. Wear protective glasses when working overhead.
- › Follow national health and safety regulations at all times.

Product data sheets and material safety data sheets are available on our website  
[www.AQUAPANEL.com/downloads](http://www.AQUAPANEL.com/downloads).

## Insulation



- › Insulation materials are supplied enclosed in packaging which is designed for short term protection only. For longer term protection on site, the product should be stored either indoors, or under cover and off the ground. Products should not be left permanently exposed to the elements.



# GENERAL INFORMATION

## for creating substructures



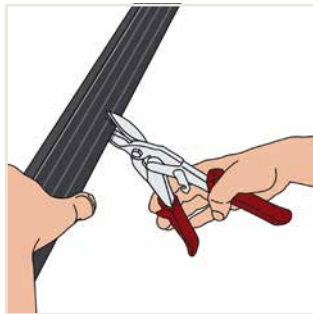
To guarantee straight walls, display the course of the walls on the floors, ceilings and columns before installing the profiles. It is recommended to use a chalk line, a cross-line laser or a rotating laser for these tasks.



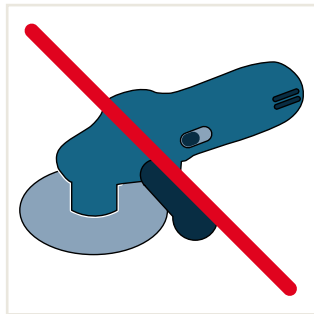
To prevent thermal and acoustic bridges and to compensate uneven surfaces, adhere self-adhesive decoupling tape to the web of the UW runner.



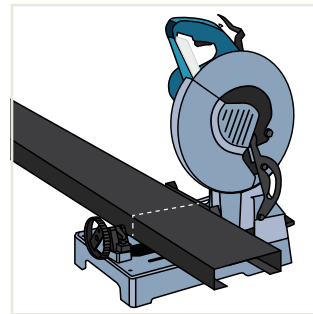
Use an appropriate drilling machine to drill holes into the reinforced concrete for the anchors.



Cut profiles up to 0.7 mm thickness to appropriate length using manual or electrical steel cutter or use an electrical circular saw with special metal blade.



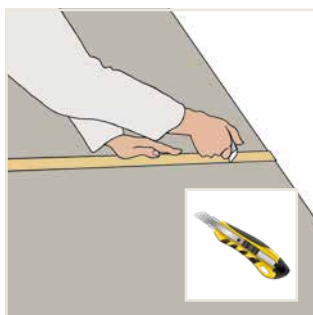
The use of separation methods causing sparks (e.g. angle grinders) destroy the corrosion protection of the profiles.



Metal thicknesses bigger than 0.7 mm cannot be cut by manual steel cutters. Electric separating tools need to be used. The tool has to be selected according to the

coating system. This is especially important for lacquers and other organic coatings, which are damaged by the influence of temperature and flying sparks. The use of band saws, low speed chop saws ( $\leq 1500$  rpm) or special circular saws for cold cuts without flying sparks is highly recommended. Cut edges of corrosion-protected profiles with a nominal thickness bigger than 1.5 mm have to be treated with corrosion protection coating (e.g. Drystar-Korrosionsschutzlack C3/C5M).

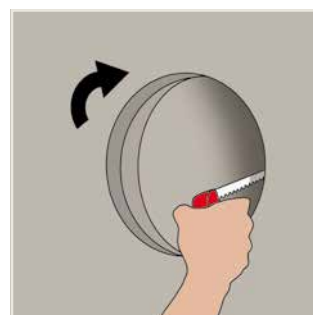
## for formatting boards



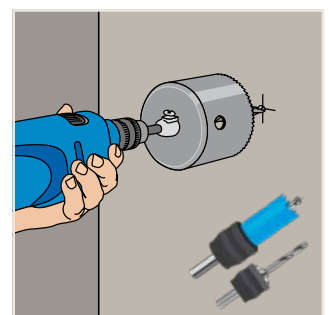
Mark the desired shape or opening on the board with pencil and ruler. Use a knife to score the cement or gypsum boards on one side along the line so that the mesh resp. thick paper is cut. Snap the scored edge and cut the mesh/paper on the rear side.



For sharp-edged cuts, for example, exterior edges, use a hand-held circular saw with a dust extractor or a pendulum jigsaw. Use of a carbide or diamond-tipped saw blade is recommended.



To make cut-outs for wiring and pipes, use a jigsaw or hole saw. The diameter of the opening should be approximately 10 mm greater than the diameter of the pipe. The remaining gap can be closed with a cuff, suitable sealant or sealing strip.







## CLEAN AND SAFE

The perfect recipe in food  
processing

- › 100% water-resistant – making it perfect for walls that need intensive cleaning and high-pressure jet spraying.
- › Even with intense cleaning with chemical agents, AQUAPANEL® Cement Board Indoor will not soften, swell, crumble or disintegrate.
- › Inorganic, and so will never harbour microbes, mould or mildew.
- › Offers superior fire resistance – ideal for a range of applications and environments.

# INSTALLATION OF INTERIOR WALLS



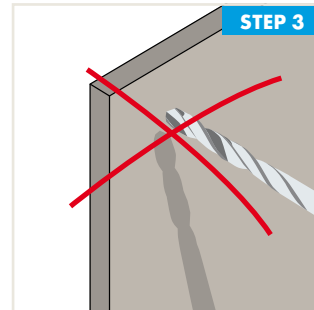
## Create substructure

Set studs at a maximum of 600 mm for horizontal and vertical installation. Timber studs can also be used.



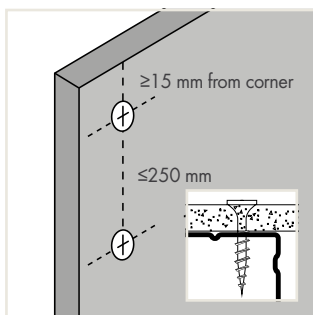
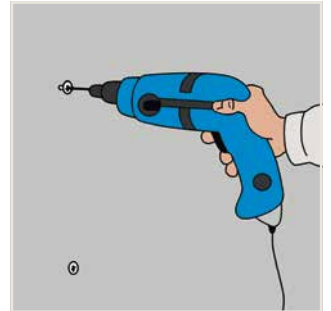
## Align the board

Align the first AQUAPANEL® Cement Board Indoor panel along the profiles using a water level. Both, horizontal and vertical mounting are possible with all AQUAPANEL® Cement Board Indoor panels.



## Fastening with screws

Generally, no pre-drilling of boards is required. However, pre-drilling of boards and profiles is needed if the material thickness of the profiles exceeds 2 mm (according to static requirements) or when blind rivets are used instead of screws. To fasten the boards with screws use a screw gun with depth stop (comprising overturned sleeve and a stop sleeve). This ensures that all screws are countersunk in the same correct way. Fasten AQUAPANEL® Cement Board Indoor to the stud frame with AQUAPANEL® Maxi Screws. First fasten the screws in the centre of the cement boards, then work towards the edges. During installation, make sure the cement boards fit closely to the substructure. Screws should not be overtightened.



Follow rules of distances: the screw spacing must not exceed 250 mm and the spacing from the edge has to be at least 15 mm.

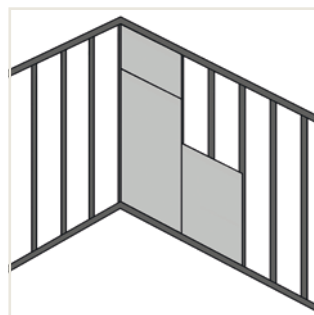


## Place next board

### Option 1:

#### Horizontal installation

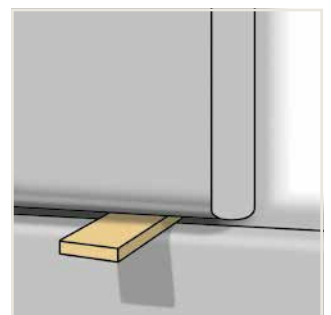
Install the next AQUAPANEL® Cement Board Indoor panel and ensure that the boards are correctly aligned horizontally and vertically. Screw panel to the framework. When fitting subsequent rows of boards, ensure that the vertical joints are offset by a minimum of one stud cavity.



### Option 2:

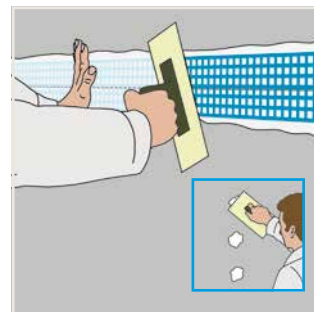
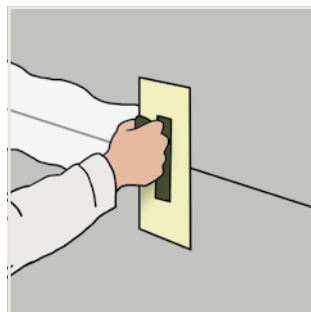
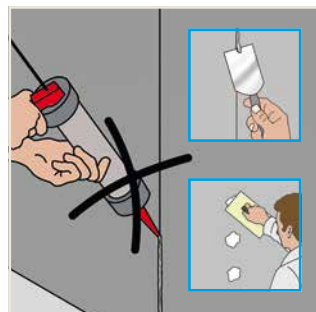
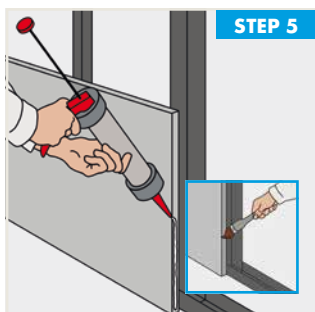
#### Vertical installation

Depending on the room height, additional boards must be placed vertically. In this case make sure they are aligned correctly and the height of each board is at least 400 mm.



### Special notes

As preparation for joint treatment with AQUAPANEL® Joint Filler & Skim Coating – white, leave a gap of 3-5 mm between boards using a suitable spacer.



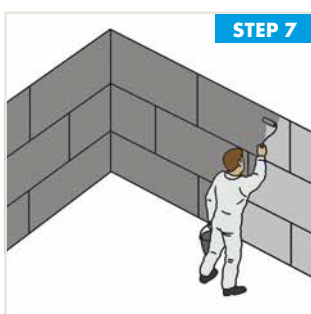
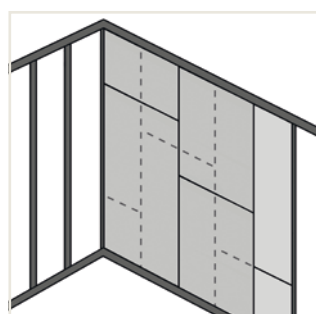
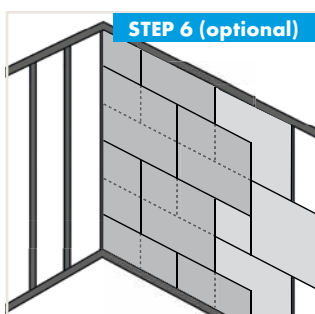
### Joint treatment

#### Option 1: AQUAPANEL® Joint Adhesive (PU)

In order to ensure good connection with AQUAPANEL® Joint Adhesive (PU), **clean the edges** of the board using, for example, a wet brush. Apply AQUAPANEL® Joint Adhesive (PU) before the next board is placed. Leave AQUAPANEL Joint Adhesive (PU) to harden and scrape off excess material after 8 - 24 hours. The joints between the walls, ceiling and floor require permanent elastic sealing in dry areas. Expansion joints should be at a minimum of 7.5 m intervals. In case of single-layer planking, fill the screw heads with AQUAPANEL® Joint Filler & Skim Coating – white.

#### Option 2: AQUAPANEL® Joint Filler & Skim Coating – white and AQUAPANEL® Tape (10 cm)

All joints should be filled with AQUAPANEL® Joint Filler & Skim Coating – white, and then embed AQUAPANEL® Tape (10 cm) centred over all joints. Apply a thin layer of AQUAPANEL® Joint Filler & Skim Coating – white to cover the tape. The joints between the walls, ceiling and floor require permanent elastic sealing in dry areas. Expansion joints should be at a minimum of 15 m intervals. In case of single-layer planking, fill the screw heads with AQUAPANEL® Joint Filler & Skim Coating – white.



### Multi-layer planking

#### Option 1: Horizontal multi-layer planking

For multi-layer planking, all horizontal and vertical panel joints must be offset. Vertical joints by a minimum of one stud cavity, horizontal joints by at least 300 mm. For double-sided double-layer constructions the panel joints of the facing boards also have to be offset. The first layer of multi-layer planking can be mounted with butt-joint boards (without adhesive) and fixed with 6 screws/m<sup>2</sup>. Treat the joints and the screw heads of the second layer as explained in STEP 5 above.

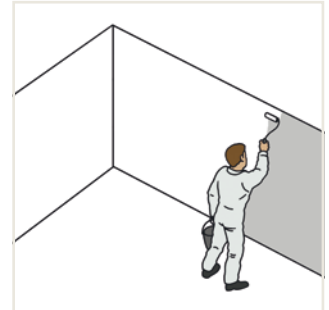
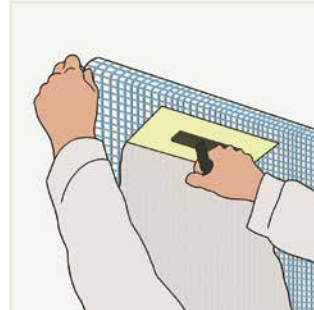
#### Option 2: Vertical multi-layer planking

For multi-layer planking, all vertical panel joints must be offset by one stud cavity. Horizontal panel joints, which result from possible addition of boards in the vertical dimension, have to be mounted with an offset of minimum 300 mm. For double-sided double-layer constructions the panel joints of the facing boards also have to be offset. The first layer of multi-layer planking can be mounted with butt-joint boards (without adhesive) and fixed with 6 screws/m<sup>2</sup>. Treat the joints and the screw heads of the second layer as explained in STEP 5 above.

### Priming

AQUAPANEL® Cement Board Indoor must be primed before tiling or finishing, using AQUAPANEL® Board Primer (primer/water 1:2).

# INSTALLATION OF INTERIOR WALLS



## Finishing

### Option 1: Tiling

For ceramic tile coverings, (tile dimensions  $\leq 600 \text{ mm} \times 600 \text{ mm}$ ), use a flexible adhesive when placing tiles. The tile adhesive must – as a minimum – meet the requirements of class C2 according to EN 12004. Maximum tile weight:  $50 \text{ kg/m}^2$  (for bigger tile sizes and heavier tiles, further measures apply).

### Option 2: Skim coating

AQUAPANEL® Cement Board Indoor can be prepared for painting by applying AQUAPANEL® Joint Filler & Skim Coating – white to the full surface (minimum coating depth 4 mm to achieve Q2 surface quality). AQUAPANEL® Reinforcing Mesh must be applied and embedded in AQUAPANEL® Joint Filler & Skim Coating – white. To achieve a finish level of Q3 apply another thin layer of AQUAPANEL® Joint Filler & Skim Coating – white and smooth out the full surface.

When the desired surface quality finish is achieved and the surface is dry, it can be painted. For surface finishes up to Q4 quality, apply AQUAPANEL® Q4 Finish over the entire pre-prepared (filled and reinforced) surface. Most common painting systems can be used. These include water-based emulsions, matt enamels, polymer resin paints, and epoxy-based enamels.\*



### Option 3: Coating above a tiled section up to Q4 quality

Using a wide stainless steel finishing trowel, apply AQUAPANEL® Q4 Finish to the visible joints that have been bonded with AQUAPANEL® Joint Adhesive (PU). Embed the glass fibre joint cover strips into the Q4 finish and centered over the joints. Apply a thin layer of AQUAPANEL® Q4 Finish to the cover strips. Fill the screw heads with AQUAPANEL® Q4 Finish. If necessary, after drying, use a hand sander to remove irregularities.

Apply AQUAPANEL® Q4 Finish to a width of at least 20 cm (5 cm beyond the edge of the first layer). Once dry, sand down any uneven areas. Apply AQUAPANEL® Q4 Finish to completely cover the untiled areas using a finishing trowel.

If necessary, sand down with paper. If a Q4 surface quality is required, apply a further layer of AQUAPANEL® Q4 Finish. After approx. 24 hours' drying, sand with abrasive paper (grade 120 or finer). For particularly smooth surfaces, sand down with, for example, an electric orbital sander.

Depending on intended uses and requirements, water-based emulsion paints, silicate emulsion paints or latex paints can be used.

**Important:** The tiled section of the wall should be  $> 50\%$  of the total height of the wall. Not suitable for areas subjected to water spray.

\* Note: A full range of other surface finishing options are also possible with AQUAPANEL® Cement Board Indoor, from clean room coatings to acoustic plasters – making it ideal for any wetroom environment.

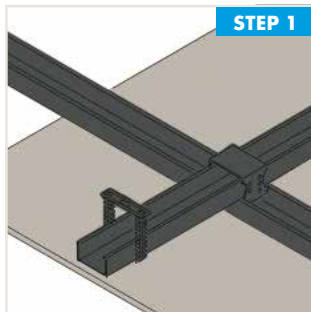


# SURFACE FINISHING AND QUALITY LEVELS

The prerequisite for a professional and visually convincing surface finish is the clear description of the desired surface quality by the client. Terms that are not defined, such as "ready for painting, ready to be painted or ready for surface finishing" are not sufficient for an unmistakable description of the type and quality of the surface. As things stand today, surface finishes are clearly tendered and executed according to their type of execution (stripped, smoothed, abraded or felted) and their quality level (quality levels Q1 to Q4).

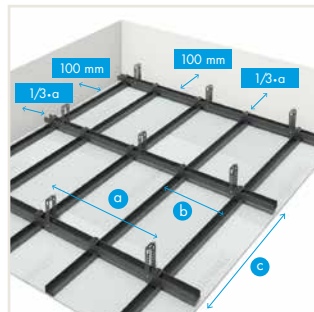
Level of finishing	Q1	Q2 (Standard)	Q3	Q4
<b>Surface description (full-area applications only)</b>	Primed and coated surface (without skim coating)	Smooth surface for <b>normal</b> optical requirements	Smooth surface for <b>enhanced</b> visual requirements	Smooth surface for <b>high</b> visual requirements
<b>Aesthetic requirements</b>	None	No special aesthetic requirements. Traces and trowel marks possible.	Enhanced. Few marks and traces under direct light. Shading is still possible under shallow light angles.	High end. Minimised appearance of any marks or traces. Shading caused by shallow light angles will be avoided to a large extent.
<b>Application requirements</b>	<b>Option 1:</b> Joint treatment with AQUAPANEL® Adhesive (PU). Joints scraped off (following day). All screw heads filled with AQUAPANEL® Joint Filler & Skim Coating – white.			
	<b>Option 2:</b> Joint treatment with AQUAPANEL® Joint Filler & Skim Coating – white and AQUAPANEL® Tape (10 cm). All screw heads filled with AQUAPANEL® Joint Filler & Skim Coating – white. AQUAPANEL® Cement Board Indoor must be primed before finishing or coating.	<b>Following Q1 treatment:</b> Full coating with AQUAPANEL® Joint Filler & Skim Coating – white with embedded AQUAPANEL® Reinforcing Mesh, followed by a thin layer AQUAPANEL® Joint Filler & Skim Coating – white to cover the mesh. Imperfections and trowel marks smoothed out.	<b>Following Q2 treatment:</b> Additional thin layer of AQUAPANEL® Joint Filler & Skim Coating – white with sanded surface (grade 120 or finer).	<b>Following Q3 treatment:</b> Fully coating with an additional layer AQUAPANEL® Q4 Finish. Re-finish with an electric orbital sander (grade 120 or finer).
<b>Finished surface suitability</b>	Only suitable for functional applications such as stability, fire resistance and sound insulation. Medium and coarse-structured paint coatings.	Medium and coarse-structured wall coverings, matt filling, medium and coarse-structured paint coatings/ coats, top coats (particle size/ largest particle over 1 mm).	Fine-structured wall coverings, matt, fine-structured paint coatings/ coats, top coats (largest particle size less than 1 mm).	Smooth or glossy wall coverings, e.g. metal-based or vinyl wallpapers, scumbles, paints or coats up to medium gloss, stucco marble or similar specialist decorative finishes.

# INSTALLATION OF INTERIOR CEILINGS



## Create substructure

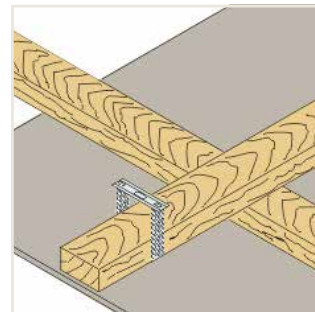
In rooms with continuous high humidity levels, such as commercial kitchens, swimming pools, saunas or chemical laboratories, it is necessary to provide improved corrosion protection for the metal framework. Fasten the hanger of the framework with suitable, building authority-approved ceiling pins. We recommend that expansion joints are included at maximum 15 m intervals. Align with the expansion joints in the background if practical.



## Interior Spacing

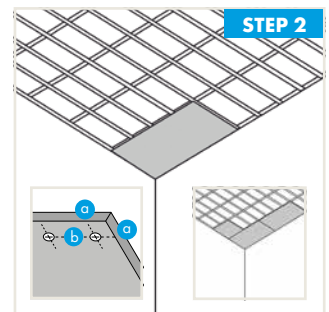
- a. Spacing hangers  $\leq 750$  mm
- b. Spacing of support profiles = 300 mm
- c. Spacing of base profiles  $\leq 1000$  mm

- › The framework of suspended ceilings is constructed in accordance with EN 13964.
- › Built-in units such as lamps and ventilation extractors may load the framework in terms of its bearing capability.
- › Large loads must be attached to separate suspensions.
- › Suspended ceilings with fire protection requirements may not be stressed with extra loads.



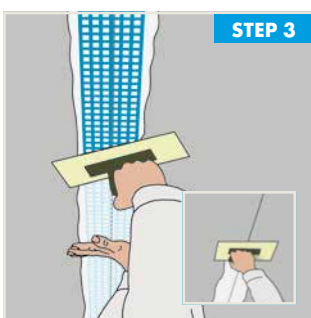
## Wooden substructure

AQUAPANEL® Cement Board Indoor can be applied to wooden substructure ceiling applications. Please take national guidelines regarding wood qualities into consideration!



## Fixing

Align the first AQUAPANEL® Cement Board Indoor panel carefully, perpendicular to the supporting profile. Screw the panel to the framework using AQUAPANEL® Maxi Screws (material requirement 25 pcs/m<sup>2</sup>). When fixing AQUAPANEL® Cement Board Indoor, the distance **a** of the screws from the board edge must be  $\geq 15$  mm. The distance **b** between screws must be  $\leq 250$  mm. The centre space between the supporting profiles is 300 mm.



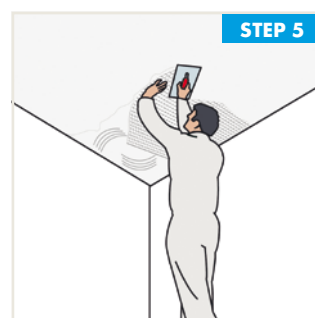
## Joint treatment

Leave a gap between joints of at least 3-4 mm. Make sure all joints are staggered. After installation, joints should be filled in with AQUAPANEL® Joint Filler & Skim Coating - white, with 10 cm AQUAPANEL® Tape embedded into the filler. Fill all screw heads.



## Priming

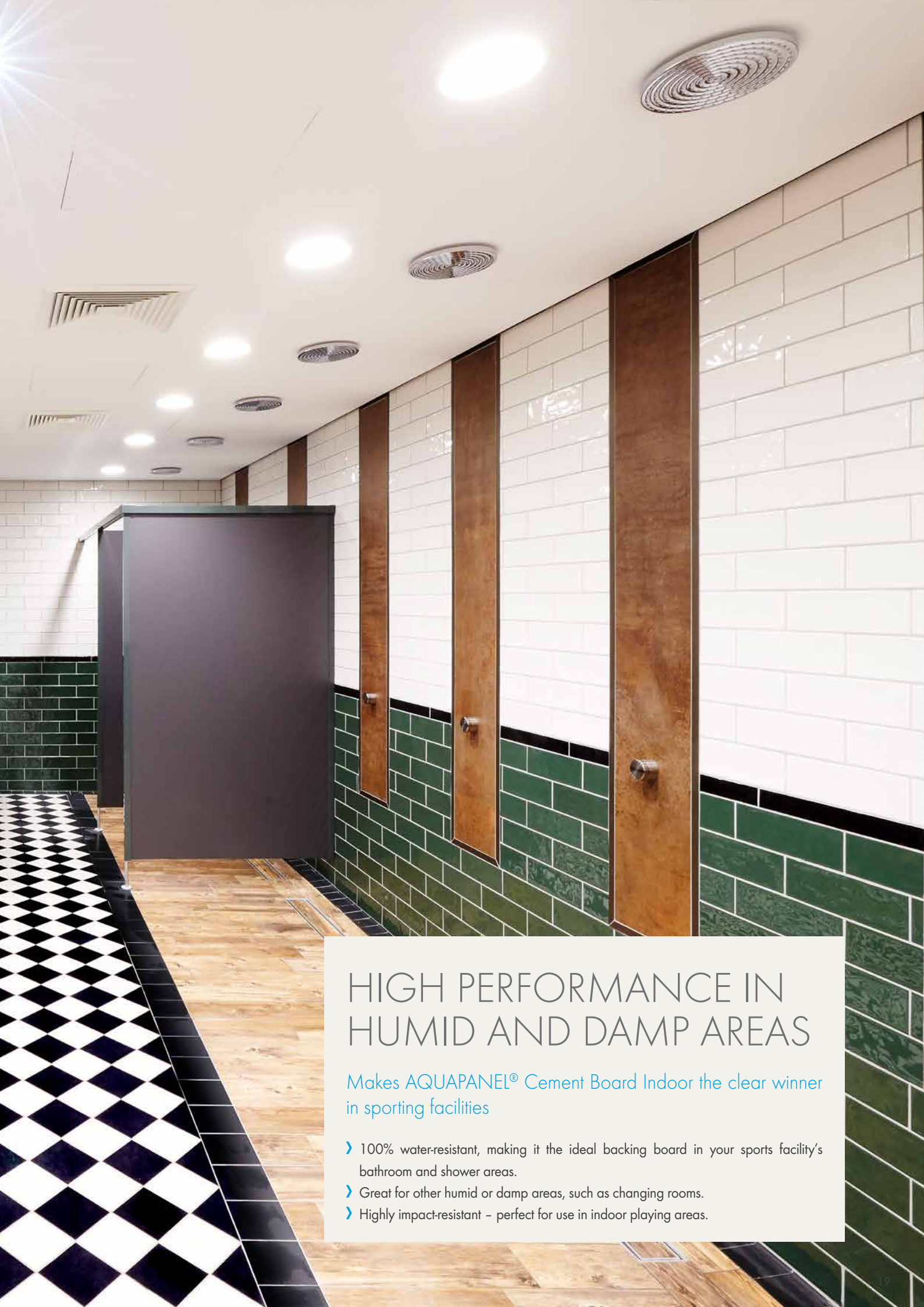
Prime the surface over using AQUAPANEL® Board Primer (primer/water 1:2).



## Surface finishing

Use AQUAPANEL® Joint Filler & Skim Coating - white to coat the panels to at least 4 mm depth all over, and embed the AQUAPANEL® Reinforcing Mesh.

For fine finishing up to Q4 surface quality, use AQUAPANEL® Q4 Finish on AQUAPANEL® Joint Filler & Skim Coating - white.


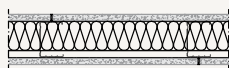
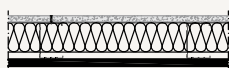


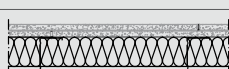




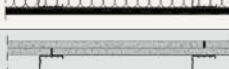



## HIGH PERFORMANCE IN HUMID AND DAMP AREAS

Makes AQUAPANEL® Cement Board Indoor the clear winner in sporting facilities

- › 100% water-resistant, making it the ideal backing board in your sports facility's bathroom and shower areas.
- › Great for other humid or damp areas, such as changing rooms.
- › Highly impact-resistant – perfect for use in indoor playing areas.

# A COMPLETE SYSTEM SOLUTION FOR WALLS AND CEILINGS

Interior wall systems			Wall thickness	Profile	Layer planking
No.	Description	Detail	(mm)	CW	
<b>W 381</b>	Metal single stud frame wall, singlelayer planking		75 100 125	50 / 0.6 75 / 0.6 100 / 0.6	12.5 mm AQUAPANEL®
<b>W 381</b>	Metal single stud frame wall, singlelayer planking		75 100 125	50 / 0.6 75 / 0.6 100 / 0.6	12.5 mm AQUAPANEL®
<b>W 383</b>	Metal single stud frame wall, single-layer mixed planking		75 100 125	50 / 0.6 75 / 0.6 100 / 0.6	12.5 mm AQUAPANEL® 12.5 mm Knauf Piano GKF
<b>W 382</b>	Metal single stud frame wall, doublelayer planking		100 125 150	50 / 0.6 75 / 0.6 100 / 0.6	2 x 12.5 mm AQUAPANEL®
<b>W 382</b>	Metal single stud frame wall, doublelayer planking		100 125 150	50 / 0.6 75 / 0.6 100 / 0.6	2 x 12.5 mm AQUAPANEL®
<b>W 384</b>	Metal single stud frame wall, doublelayer mixed planking		100 125 150	50 / 0.6 75 / 0.6 100 / 0.6	2 x 12.5 mm AQUAPANEL® 2 x 12.5 mm Knauf Diamant 2 x 12.5 mm Knauf GKF
<b>W 385</b>	Metal double stud frame wall, singlelayer planking		130 180 230	2x 50 / 0.6 2x 75 / 0.6 2x 100 / 0.6	12.5 mm AQUAPANEL®
<b>W 385</b>	Metal double stud frame wall, singlelayer planking		130 180 230	2x 50 / 0.6 2x 75 / 0.6 2x 100 / 0.6	12.5 mm AQUAPANEL®
<b>W 385</b>	Metal double stud frame, single-layer mixed planking		130 180 230	2x 50 / 0.6 2x 75 / 0.6 2x 100 / 0.6	12.5 mm AQUAPANEL® 12.5 mm Knauf Piano GKF
<b>W 385</b>	Metal double stud frame wall, doublelayer planking		155 205 255	2x 50 / 0.6 2x 75 / 0.6 2x 100 / 0.6	2 x 12.5 mm AQUAPANEL®
<b>W 385</b>	Metal double stud frame wall, doublelayer planking		155 205 255	2x 50 / 0.6 2x 75 / 0.6 2x 100 / 0.6	2 x 12.5 mm AQUAPANEL®
<b>W 385</b>	Metal double stud frame, double-layer mixed planking		155 205 255	2x 50 / 0.6 2x 75 / 0.6 2x 100 / 0.6	2 x 12.5 mm AQUAPANEL® 2 x 12.5 mm Knauf Diamant 2 x 12.5 mm Knauf GKF

Note: all performances have been determined considering a stud spacing of 600 mm  
Wall heights can be increased when using wider profiles and/or by decreasing the stud spacing.



	Mineral wool	Maximum wall height (cm)*		Sound insulation	Fire protection
	(mm) / (kg/m <sup>3</sup> )	without fire protection requirement	with fire protection requirement	R <sub>w</sub> * (dB)	Rating <sup>(a)</sup>
	none	325 <sup>(e)</sup> 400 510	325 400 / 500 <sup>(c)</sup> 400 / 500 <sup>(c)</sup>	–	EI 30 <sup>(b)</sup> EI 30 <sup>(c)</sup> EI 30 <sup>(c)</sup>
	(50) / (14) (60) / (14) (80) / (14)	325 <sup>(e)</sup> 400 510	325 400 / 500 <sup>(c)</sup> 400 / 500 <sup>(c)</sup>	43 46 ± 3 ** 48 ± 3 **	– EI 30 <sup>(c)</sup> EI 30 <sup>(c)</sup>
	(50) / (14) (60) / (14) (80) / (14)	315 <sup>(e)</sup> 400 500	300 300 300	44 47 ± 3 ** 48 ± 3 **	EI 30 <sup>(d)</sup> / EI 30 <sup>(c)</sup> EI 45 <sup>(d)</sup> / EI 30 <sup>(b)</sup> EI 30 <sup>(c)</sup>
	none	400 465 685	400 400 / 500 <sup>(c)</sup> 400 / 500 <sup>(c)</sup>	–	EI 90 <sup>(b)</sup> EI 90 <sup>(c)</sup> EI 90 <sup>(c)</sup>
	(40) / (14) (60) / (14) (80) / (14)	400 465 685	400 400 / 500 <sup>(c)</sup> 400 / 500 <sup>(c)</sup>	55 57 60	– EI 90 <sup>(c)</sup> EI 90 <sup>(c)</sup>
	(50) / (14) (60) / (14) (80) / (14)	400 470 685	300 300 300	54 <sup>(1)</sup> 57 <sup>(2)</sup> 56 ± 3 **	EI 90 <sup>(d)</sup> / EI 90 <sup>(c)</sup> EI 120 <sup>(d)</sup> / EI 90 <sup>(c)</sup> EI 90 <sup>(c)</sup>
	none	270 <sup>(e)</sup> 400 415	270 400 / 500 <sup>(c)</sup> 400 / 500 <sup>(c)</sup>	–	EI 30 <sup>(c)</sup> EI 30 <sup>(c)</sup> EI 30 <sup>(c)</sup>
	(2 x 40) / (14) (2 x 60) / (14)	270 <sup>(e)</sup> 400 415	270 400 / 500 <sup>(c)</sup> 400 / 500 <sup>(c)</sup>	53 ± 3 ** 55 ± 3 ** –	– EI 30 <sup>(c)</sup> EI 30 <sup>(c)</sup>
	(2 x 40) / (14) (2 x 60) / (14)	270 <sup>(e)</sup> 400 415	270 300 300	53 ± 3 ** 55 ± 3 ** –	EI 30 <sup>(c)</sup> EI 30 <sup>(c)</sup> EI 30 <sup>(c)</sup>
	none	290 <sup>(e)</sup> 400 440	290 400 / 500 <sup>(c)</sup> 400 / 500 <sup>(c)</sup>	–	EI 90 <sup>(c)</sup> EI 90 <sup>(c)</sup> EI 90 <sup>(c)</sup>
	(2 x 40) / (14) (2 x 60) / (14)	290 <sup>(e)</sup> 400 440	290 400 / 500 <sup>(c)</sup> 400 / 500 <sup>(c)</sup>	64 68 ± 3 ** –	– EI 90 <sup>(c)</sup> EI 90 <sup>(c)</sup>
	(2 x 40) / (14) (2 x 60) / (14)	290 <sup>(e)</sup> 400 440	290 300 300	66 <sup>(2)</sup> 67 ± 3 ** –	EI 90 <sup>(c)</sup> EI 90 <sup>(c)</sup> EI 90 <sup>(c)</sup>

(e) only installation range 1: area less frequented by people as are assumed in e.g. flats, hotel rooms, offices or wards and similarly used rooms including corridors.

<sup>(1)</sup> Knauf Piano GKF

<sup>(2)</sup> Knauf Diamant

<sup>(\*)</sup> lower value is decisive








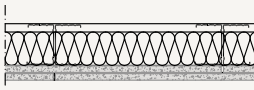
<sup>(\*\*)</sup> calculated value

<sup>(a)</sup> Fire from both sides

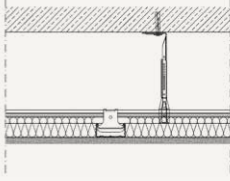
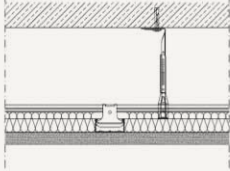
<sup>(b)</sup> acc. to test report

<sup>(c)</sup> acc. to expert opinion

<sup>(d)</sup> Fire from the AQUAPANEL® side

Interior wall systems			Wall thickness	Profile	Layer planking
No.	Description	Detail	(mm)	CW	
<b>W386</b>	Plumbing wall, fishplated double stud frame, single-layer planking		230 275 330	2 x 50 / 0.6 2 x 75 / 0.6 2 x 100 / 0.6	12.5 mm AQUAPANEL®
<b>W386</b>	Plumbing wall, fishplated double stud frame, single-layer planking		230 275 330	2 x 50 / 0.6 2 x 75 / 0.6 2 x 100 / 0.6	12.5 mm AQUAPANEL®
<b>W386</b>	Plumbing wall, fishplated double stud frame, single-layer mixed planking		230 275 330	2 x 50 / 0.6 2 x 75 / 0.6 2 x 100 / 0.6	12.5 mm AQUAPANEL® 12.5 mm GKF
<b>W386</b>	Plumbing wall, fishplated double stud frame, double-layer planking		255 300 355	2 x 50 / 0.6 2 x 75 / 0.6 2 x 100 / 0.6	2 x 12.5 mm AQUAPANEL®
<b>W386</b>	Plumbing wall, fishplated double stud frame, double-layer planking		255 300 355	2 x 50 / 0.6 2 x 75 / 0.6 2 x 100 / 0.6	2 x 12.5 mm AQUAPANEL®
<b>W386</b>	Plumbing wall, fishplated double stud frame, double-layer mixed planking		255 300 355	2 x 50 / 0.6 2 x 75 / 0.6 2 x 100 / 0.6	2 x 12.5 mm AQUAPANEL® 2 x 12.5 mm Knauf GKF
<b>W685</b>	Independent wall lining, single-layer planking		62.5 87.5 112.5	50 / 0.6 75 / 0.6 100 / 0.6	12.5 mm AQUAPANEL®
<b>W685</b>	Independent wall lining, doubled profile (back to back), double-layer planking		75 100 125	50 / 0.6 75 / 0.6 100 / 0.6	2 x 12.5 mm AQUAPANEL®

Note: all performances have been determined considering a stud spacing of 600 mm  
Wall heights can be increased when using wider profiles and/or by decreasing the stud spacing.

Interior ceiling systems			Profile	Maximum load	Layer planking
No.	Description	Detail			
<b>D282</b>	Suspended ceiling, single-layer planking		CD 60/27 UD 28/27	0.40 kN	12.5 mm AQUAPANEL®
<b>D282</b>	Suspended ceiling, double-layer planking		CD 60/27 UD 28/27	0.40 kN	2 x 12.5 mm AQUAPANEL®

	Mineral wool	Maximum wall height (cm) *		Sound insulation	Fire protection
	(mm) / (kg/m³)	without fire protection requirement	with fire protection requirement	R <sub>w</sub> * (dB)	Rating <sup>(a)</sup>
	none	325 <sup>(e)</sup> 400 510	325 400 / 500 <sup>(c)</sup> 400 / 500 <sup>(c)</sup>	–	EI 30 <sup>(c)</sup> EI 30 <sup>(c)</sup> EI 30 <sup>(c)</sup>
	(2 x 50) / (14) (2 x 60) / (14) –	325 <sup>(e)</sup> 400 510	325 400 / 500 <sup>(c)</sup> 400 / 500 <sup>(c)</sup>	50 57 ± 3 ** –	– EI 30 <sup>(c)</sup> EI 30 <sup>(c)</sup>
	(2 x 50) / (14) (2 x 60) / (14) –	325 <sup>(e)</sup> 400 500	300 300 300	50 57 ± 3 ** –	EI 30 <sup>(c)</sup> EI 30 <sup>(c)</sup> EI 30 <sup>(c)</sup>
	none	400 465 685	400 400 / 500 <sup>(c)</sup> 400 / 500 <sup>(c)</sup>	–	EI 90 <sup>(c)</sup> EI 90 <sup>(c)</sup> EI 90 <sup>(c)</sup>
	(2 x 50) / (14) (2 x 60) / (14) –	400 465 685	400 400 / 500 <sup>(c)</sup> 400 / 500 <sup>(c)</sup>	57 69 ± 3 ** –	– EI 90 <sup>(c)</sup> EI 90 <sup>(c)</sup>
	(2 x 50) / (14) (2 x 60) / (14) –	400 470 685	300 300 300	61 69 ± 3 ** –	EI 90 <sup>(c)</sup> EI 90 <sup>(c)</sup> EI 90 <sup>(c)</sup>
	none	270 <sup>(e)</sup> 380 400	–	–	–
	(40) / (30)	290 <sup>(a)</sup> 435 600	290 300 300	–	EI 30 <sup>(b)</sup> EI 30 <sup>(c)</sup> EI 30 <sup>(c)</sup>

(e) only installation range 1: area less frequented by people as are assumed in e.g. flats, hotel rooms, offices or wards and similarly used rooms including corridors.

<sup>(1)</sup> Knauf Piano GKF

<sup>(2)</sup> Knauf Diamant

<sup>(\*)</sup> lower value is decisive

<sup>(\*\*)</sup> calculated value

<sup>(a)</sup> Fire from both sides

<sup>(b)</sup> acc. to test report

<sup>(c)</sup> acc. to expert opinion

<sup>(d)</sup> Fire from the AQUAPANEL® side

	Mineral wool	Ceiling weight	Distance profiles and hangers	Fire protection
	(mm) / (kg/m³)	(kg/m³)	(mm)	Rating
	–	approx. 16	Base profile: 1000 mm Supporting profile: 300 mm Hangers: 750 mm	–
	(40) / (14)	approx. 31	Base profile: 750 mm Supporting profile: 300 mm Hangers: 750 mm	EI 30 / EI 45 <sup>(*)</sup>

<sup>(\*)</sup> depending on local regulations and requirements



## SPECTACULAR DESIGN OPTIONS

For distinctive walls and ceilings

- › Full-board bending radius of 1 m makes it easy to create stylish curved walls.
- › Large glass, ceramic, stone and mosaic tile coverings for splash areas - up to 600 x 600 mm or larger sizes.
- › Highly resistant to chlorine-based cleaning agents.
- › Simple to remove and replace in line with changing designs.



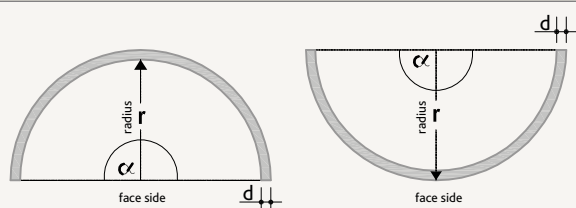
# CURVED CONSTRUCTIONS

Flexible design for walls and ceilings

## Applying AQUAPANEL® Cement Board Indoor to curved constructions

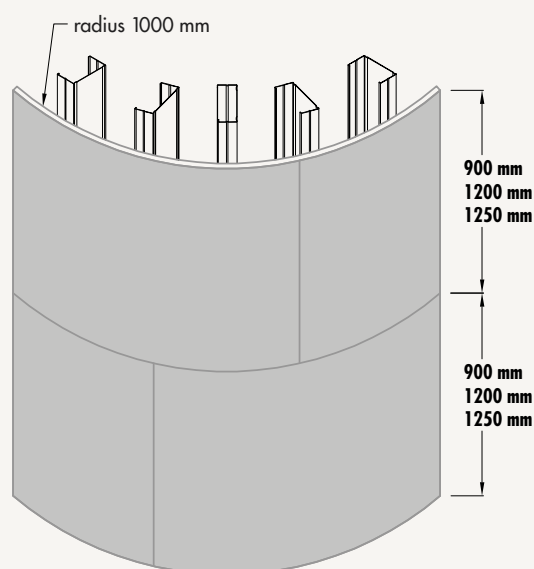
For everything from arches to rounded walls, AQUAPANEL® Cement Board Indoor provides unlimited design flexibility and ease. With a full-board bending radius of 1 m, while retaining robustness and resistance, it opens up more options for tackling wet and humid environments. Before installation, bend the panel – the fine cracks that appear on the surface will not cause any loss of performance. The maximum stud spacing should not exceed 300 mm (external radius).

### Concave shape, convex shape

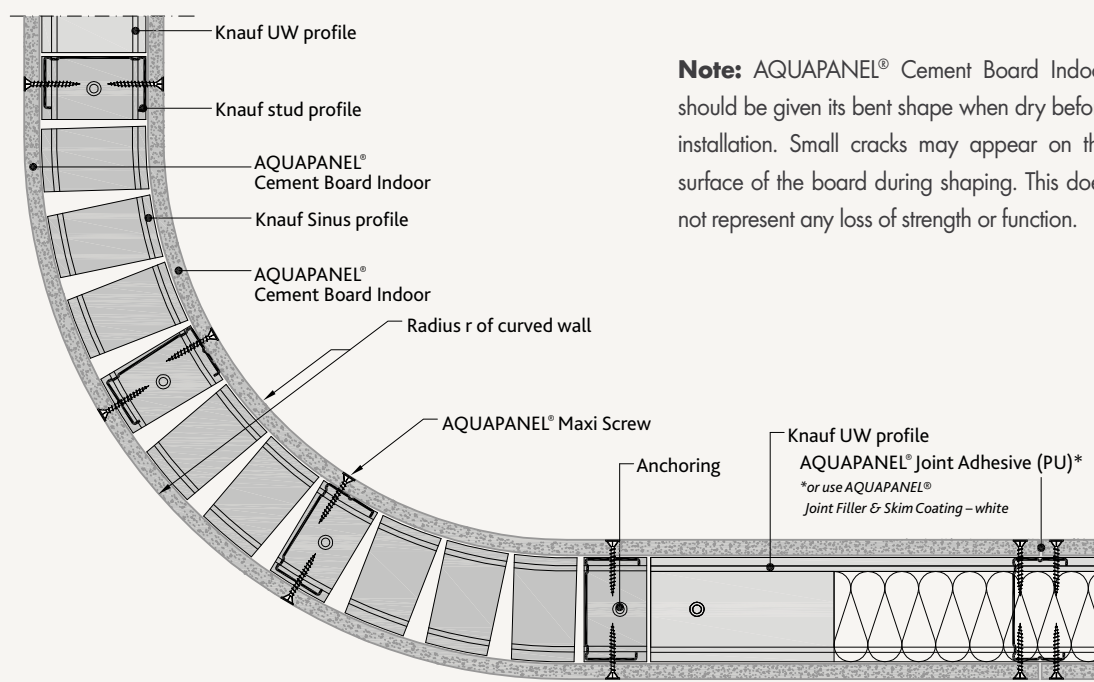


Board thickness	Bending radius $r$ of AQUAPANEL® Cement Board Indoor
$d$	Width 900 mm, 1200 mm, 1250 mm
12.5 mm	$\geq 1000$ mm

### Design with full board for $r \geq 1.0$ m



### Details



**Note:** AQUAPANEL® Cement Board Indoor should be given its bent shape when dry before installation. Small cracks may appear on the surface of the board during shaping. This does not represent any loss of strength or function.

# DETAILS FOR WET AND HUMID ROOMS

## Pipe lead through, connections to tubs and floor surfaces

Basically, when installing interior walls in wet and humid rooms attention must be paid to the waterproofness of the complete construction.

Installation of pipe lead throughs, wall and tub connections and corners must therefore be closed with permanently flexible, fungicidal sealant.

Openings for pipes and fittings are always designed approx. 10 mm larger than the respective installation parts. The gap between the sanitary items and tiles is then approx. 5 mm. It is closed with permanently flexible, fungicidal sealant.

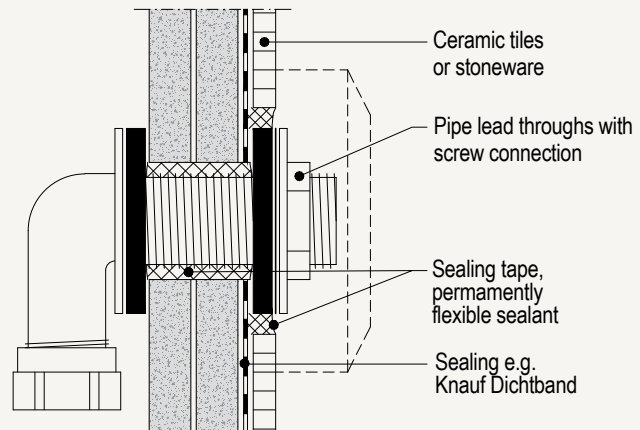
The sealing is carried out in two work steps:

- > after planking and
- > after tiling.

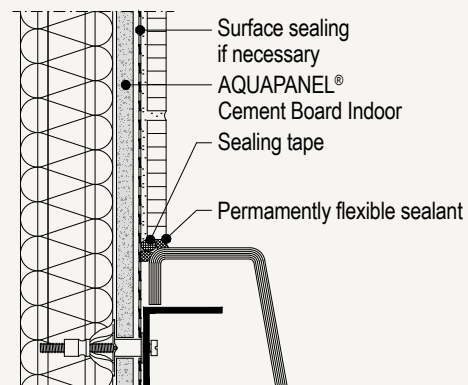
Open board edges are primed before sealing for better adhesion of the material.

The transmission of impact sound through the sanitary items to the partition walls should be kept as low as possible. For this reason, a sealing tape, e.g. made of felt, should always be installed between the sanitary items and the planking.

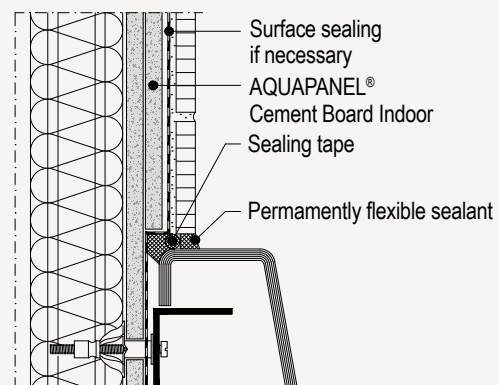
## Pipe lead throughs



## Bath connection, single-layer planked walls

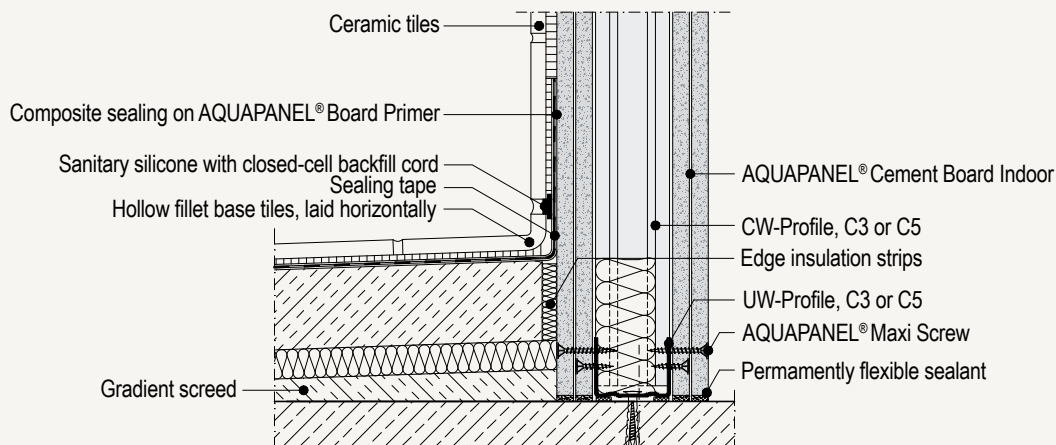


## Bath connection, double-layer planked walls



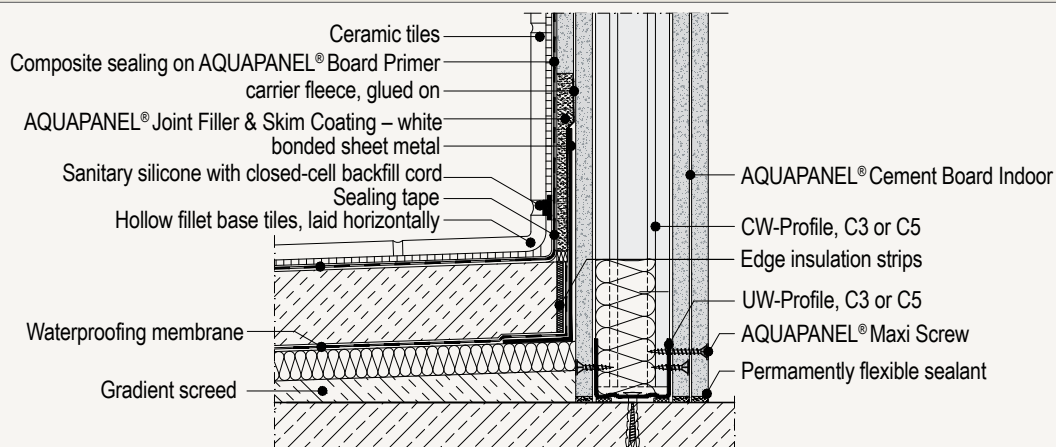
### Humid room with one sealing layer

Execution recommendation for the humid room with one sealing layer: top-side, water-bearing sealing system on base and floor  
Moderate stress class: A0  
Fire protection F90



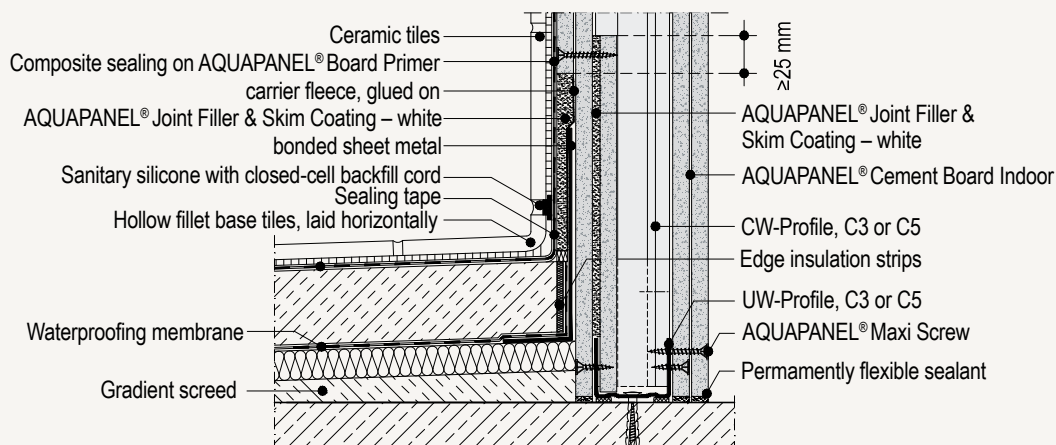
### Humid room with two sealing layers

Execution recommendation for the humid room with two sealing layers: top-side, water-bearing sealing system on the wall and floor plus underside building protection on the base and floor  
High stress class: A  
Fire protection F30



### Wet room with two sealing layers

Execution recommendation for the wet room with two sealing layers: top-side, water-bearing sealing system on the wall and floor  
High stress class: A  
Fire protection F90



# EXTREME TEMPERATURE RESISTANCE

Perfect for wellness centres and steam saunas

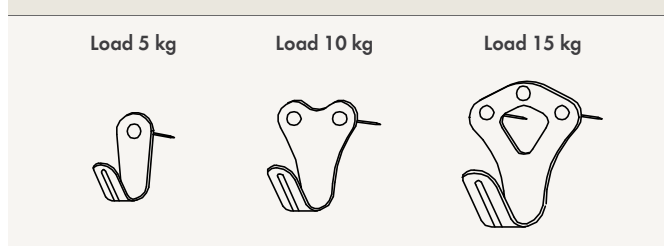
- › Suitable for sustained temperatures of up to 70°C.
- › 100% water-resistant – will never swell, soften, flake or crumble.
- › Inorganic, so resistant to mould and mildew.
- › Ultra-hygienic, ecological and safe building material.



# LOAD FASTENINGS FOR WALLS AND CEILINGS

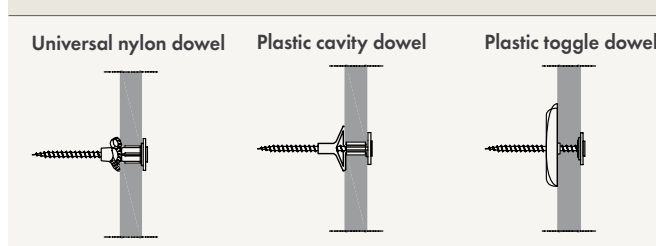
## Light and bracket loads

**Figure 1: Flat loads up to 15 kg (hooks)**



Note: Light objects e.g. pictures can be fastened with X-hooks.

**Figure 2: Bracket loads up to 0.7 kN/m (plugs)**



For anchoring console loads up to 0.4 kN/m (single-layer planking) or 0.7 kN/m (double-layer planking).

**Table 1: Dowel loading – tension and shear load (kg)**

AQUAPANEL® Cement Board Indoor	Universal nylon dowel <sup>1</sup>		Plastic cavity dowel <sup>2</sup>	Plastic toggle dowel <sup>3</sup>	Plasterboard dowel <sup>4</sup>
	Ø 6 mm	Ø 8 mm	Ø 10 mm	Ø 8 mm	–
1 x 12.5 mm	20	25	20	25	10
2 x 12.5 mm	35	40	35	40	20

<sup>1</sup> Universal nylon plug: e.g. Fischer FU, UX.

<sup>2</sup> Plastic cavity plug: e.g. Hilti HLD.

<sup>3</sup> Plastic toggle plug: e.g. Fischer K 54.

<sup>4</sup> Plasterboard dowel: e.g. Fischer GKS.

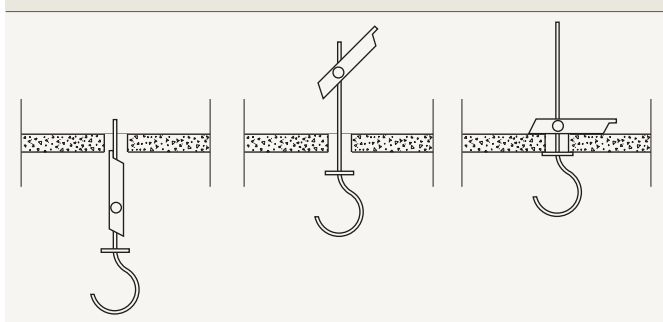
For all mentioned dowels the use of stainless steel screws is recommended.

Fastening distance of the plugs is > 75 mm. The bracket loads must be fastened with at least two cavity fixing plugs of plastic or metal, e.g. Fischer FU, UX, K54, GKS, Hilti HLD. For all plugs, stainless steel screws d = 4-6 mm are recommended.

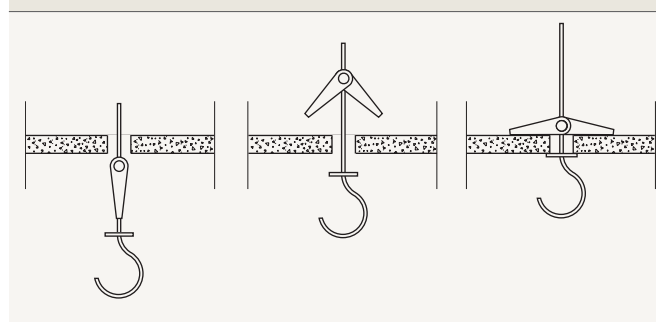
## Fastening loads to ceilings

Light loads, which do not exceed the load-bearing capacity of a light suspended ceiling, may be fastened to AQUAPANEL® Cement Board Indoor, taking advantage of the panel's in-built strength and robustness. Heavier loads must be secured separately to the original ceiling using tilting ceiling hooks or spring toggle ceiling hooks, with a maximum load-bearing capacity of 20 kg in single-layer planking and 25 kg in double-layer planking.

**Figure 3: Tilting ceiling hooks**



**Figure 4: Spring toggle ceiling hooks**



# PERMITTED CONSOLE LOADS

In general, console loads can be fixed to partition walls, whether they are single stud walls or double stud walls, with single-layer planking or double-layer planking. If the console loads are fastened to a double stud wall, the stud rows must be connected using fishplates.

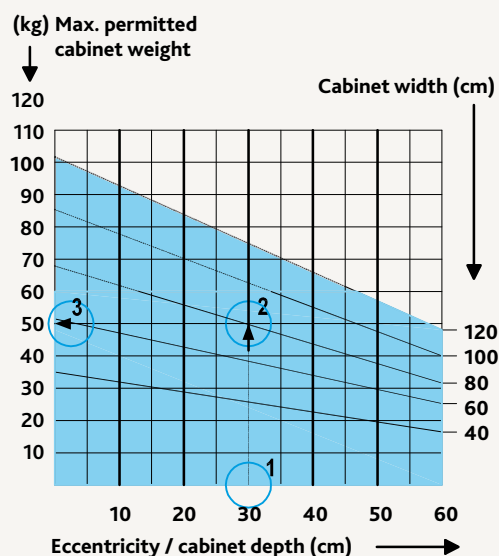
## Light console loads (up to 0.7 kN/m wall)

Light console loads can be fixed to the boards using the appropriate plugs (see page 29, figures 1 & 2)

### Single-layer planked walls

According to DIN 18183, single-layer walls may be loaded at any point by console loads up to 0.4 kN/m wall length taking into account the leverage (cabinet height > 30 cm) and eccentricity (cabinet depth < 60 cm).

**Diagram 1:** Single layer walls, permitted console loads up to 0.4 kN/m wall length

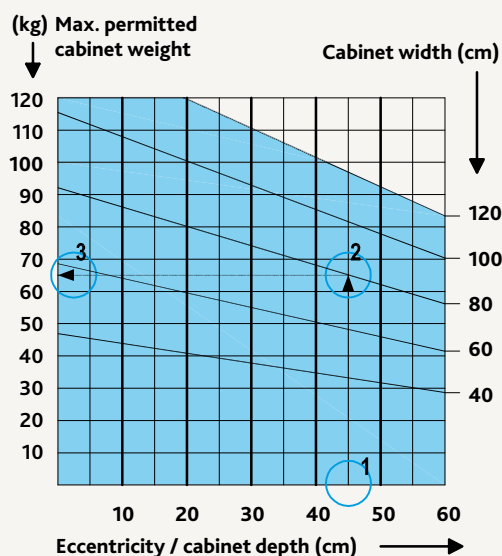


**Example:** Wall cabinet depth 30 cm, cabinet width 80 cm. In the diagram, draw a vertical line from the cabinet depth 30 cm (1) to the oblique line cabinet width 80 cm (2). Then the maximum cabinet weight (3) can be read at the height of the intersection on the left scale: 50 kg.

### Double-layer planked walls

Double-layer walls may be loaded at any point by console loads up to 0.7 kN/m wall length taking into account the leverage (cabinet height > 30 cm) and eccentricity (cabinet depth < 60 cm).

**Diagram 2:** Double layer walls, permitted console loads up to 0.7 kN/m wall length



**Example:** Wall cabinet depth 45 cm, cabinet width 80 cm. In the diagram, draw a vertical line from the cabinet depth 45 cm (1) to the oblique line cabinet width 80 cm (2). Then the maximum cabinet weight (3) can be read at the height of the intersection on the left scale: 65 kg.

In order to ensure sufficient fixing of console loads, the required minimum number of screw connections must be observed. This is calculated from the actual cabinet weight (not to be confused with the maximum permissible cabinet weight) and the maximum permissible load (kg) per anchor with single or double layer planking.

### Calculation examples - determination of the cabinet weight, and the required minimum number of dowels (always $\geq 2$ )

Single-layer planking (1 x 12.5 mm)		Double-layer planking (2 x 12.5 mm)	
<b>Cabinet weight:</b>	50 kg	<b>Cabinet weight:</b>	65 kg
<b>Plastic cavity dowel:</b>	Maximum dowel load: 20 kg (see page 29, table 1)	<b>Plastic toggle dowel:</b>	Maximum dowel load: 40 kg (see page 29, table 1)
<b>Required number of dowels:</b> 50 kg/20 kg = 2.5	3 dowels are required	<b>Required number of dowels:</b> 65 kg/40 kg = 1.63	2 dowels are required

### Heavy console loads (up to 1.5 kN/m wall)

Heavy console loads must be attached to special construction parts such as cross beams, console frames, cross member bracing or AQUAPANEL® Traverses. Cross beams and cross member braces are directly linked to the framework so that loads can be securely transferred into the framework. Supporting frames are fastened to the framework depending on the type of construction, but are generally anchored directly to the original floor.

### Traverses

AQUAPANEL® Traverses are used for fitting wall-mounted loads up to 1.5 kN/m (e.g. mounting bolts, shelving, handrails) onto drylining walls made with AQUAPANEL® Cement Board Indoor panelling. They are resistant to alkalis and moisture and are available with (MH type) or without (M type) timber insert.

AQUAPANEL® Traverses are mounted between the CW studs to safely accommodate console loads. The AQUAPANEL® Traverses are fastened twice per side with a crimping tool. Alternatively, the AQUAPANEL® Traverses can also be fixed with tapping screws.

**For single-layer planking (with skim-coated finish), the following maximum loads apply:**

- › AQUAPANEL® Traverse M: up to 0.7 kN/m
- › AQUAPANEL® Traverse MH: up to 1.5 kN/m

**For single-layer planking with tiled AQUAPANEL® Cement Board Indoor or double-layer planking, the following maximum loads apply:**

- › AQUAPANEL® Traverse M and MH: up to 1.5 kN/m

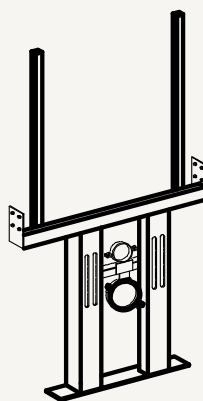
For more information regarding the AQUAPANEL® Traverse, please see the technical datasheet.

### Sanitary support handles

Even higher loads are transmitted by standard sanitary support handles or rails. For the various sanitary objects different versions of support handles or rails are available. Sanitary support handles or rails are either fastened to lateral U-stiffening profiles or anchored directly in the unfinished floor. During assembly, the manufacturer's guidelines must be observed.

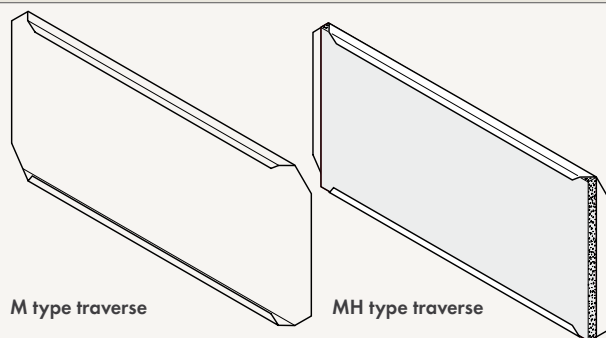
### Fixation of heavy console loads

Heavy console loads up to 1.5 kN/m (trusses, crossbeams)

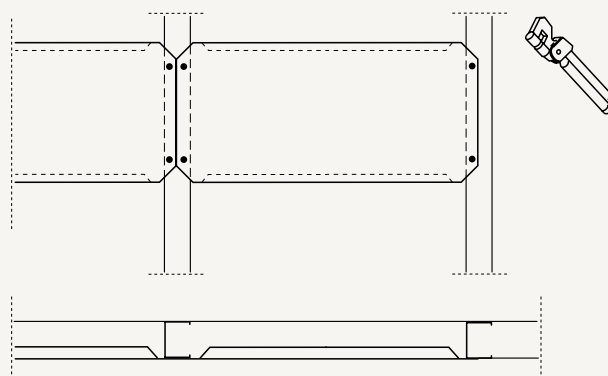


Console loads over 0.7 kN/m to 1.5 kN/m wall length are to be installed onto the substructure via main trusses and crossbeams.

### Types of AQUAPANEL® Traverses



### AQUAPANEL® Traverses installation



I. Attach using crimping pliers

II. Stud profile

# ACCESS DOORS

## Access doors for interior walls and ceilings

AQUAPANEL® Access Doors can be installed in any partition or plumed wall constructed from AQUAPANEL® Cement Board Indoor panels. Easy to install and safe to handle, they provide greater convenience and quality, as well as being tested for imperviousness to water in accordance with the BBW 0215069 test report issued by LGA Bayern.

### AQUAPANEL® Access Door for splash water protection

This is a water spray protected version which offers a dust-proof and airtight seal – perfect for universal application in walls and ceilings, as well as single or double-layer planking or for use with tiles and plaster. The door features a coated edge.

#### Installation

The door can be installed either when building the wall substructure or afterwards. Make an opening 20 mm larger than the frame of the AQUAPANEL® Access Door. Construct a frame from CD or CW/UW profiles according to the dimensions of the access door. When installing in a ceiling, fasten four additional suspension brackets at the corners of the access door. Position, align and screw the frame of the door onto the profile frame. Now place the inner cover in position and check that it closes properly. The panelling should be screwed to the frame using AQUAPANEL® Maxi Screws SN or SB. If the distance from installations in the wall or ceiling is less than 200 mm, the external frame must be built into the AQUAPANEL® Cement Board Indoor before the area is panelled.

### AQUAPANEL® Access Door for humid rooms

This type of access door is for use in areas that don't require spray water protection. If required, it can also be supplied with a coated edge, allowing easy application of AQUAPANEL® Q4 Finish. It is suitable for use in walls or ceilings. Versions for single and double-layer planking are available.

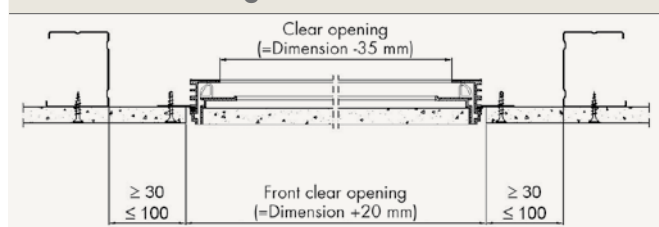
#### Installation

Cut an opening 12 mm larger than the access door (equal inside dimensions). If required, make an additional external frame from CD or CW profiles according to the dimensions of the access door. When replacing suspended ceiling profiles, additional suspension brackets are required. Place the outer frame of the access door in the opening, position on the panelling, align and fix. Now place the inner cover in position and check that it closes properly. If the distance from installations in the wall or ceiling is less than 200 mm, the external frame must be built into the AQUAPANEL® Cement Board Indoor before the area is panelled.

**WARNING:** The screw length depends on the number of board layers. At least three screws must be used for each side of the frame. The maximum distance between screws is 150 mm. There should be no joints in the panels near the access door. For wall-mounted access doors, allow a clearance of  $\geq 50$  mm at the top third on the backside of the panel for opening. Ensure distances of minimum 30 mm and maximum 100 mm between the opening and the CD or UW profiles (in the case of walls to the profile frame, with ceilings on at least two opposite sides).

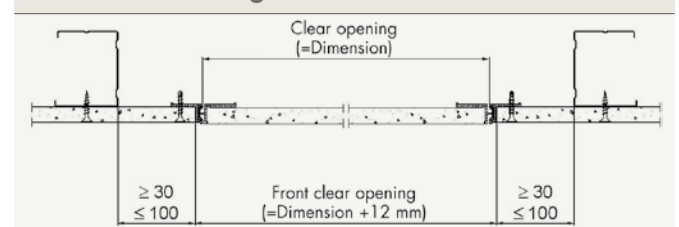
Dimensions	AQUAPANEL® Access Door Splash Water Protection
Order size	500 mm x 500 mm
Inside dimensions	465 mm x 465 mm
Panel opening	520 mm x 520 mm

#### Schematic drawing:



Dimensions	AQUAPANEL® Access Door Humid Rooms
Order size	500 mm x 500 mm
Inside dimensions	500 mm x 500 mm
Panel opening	512 mm x 512 mm

#### Schematic drawing:







### Method of delivery

#### Panelling with **AQUAPANEL®** Cement Board Indoor

Panel thickness 12.5 mm

2 x 12.5 = 25 mm

#### **AQUAPANEL® Access Door** Splash Water Protection

300 x 300 x 12.5 mm

400 x 400 x 12.5 mm

500 x 500 x 12.5 mm

600 x 600 x 12.5 mm

#### **AQUAPANEL® Access Door** Humid Rooms

300 x 300 x 12.5 mm

400 x 400 x 12.5 mm

500 x 500 x 12.5 mm

600 x 600 x 12.5 mm

300 x 300 x 25 mm

400 x 400 x 25 mm

500 x 500 x 25 mm

600 x 600 x 25 mm

#### **AQUAPANEL® Access** **Door Humid Rooms** **with coating edge 5 mm**

300 x 300 x 12.5 mm

400 x 400 x 12.5 mm

500 x 500 x 12.5 mm

600 x 600 x 12.5 mm

# HYGIENIC AND SIMPLE

For buildings with ultra-hygienic needs

- › Inorganic and 100% water-resistant – able to withstand intensive cleaning and disinfection.
- › Ecological and safe building material.
- › AQUAPANEL® Traverse can bear console loads up to 1.5 kN/m – ideal for sanitary mounts.
- › Perfect for clean rooms and environments demanding outstanding hygiene levels.



# TECHNICAL PRODUCT DETAILS

## Physical properties and material consumption

Physical properties			
Length (mm)	1200/1250/2400/2500	900/2000/2400/2500/ 2600/2800/3000	900/2000/2500/2600
Width (mm)	900	1200	1250
Thickness (mm)	12.5		
Min. bending radius for 900/1200/1250 mm wide board (m)	1		
Weight (kg/m <sup>2</sup> )	Approx. 11		
Dry bulk density (kg/m <sup>3</sup> ) according to EN 12467	Approx. 750		
Bending strength (MPa) according to EN 12467	≥ 7		
pH-value	12		
Building material class according to EN 13501	A1 non-combustible		
Linear moisture movement 30% to 90% humidity (23±2 °C) according EN 12467	Lm = 0.0606%		
Water vapour diffusion resistance according DIN EN ISO 7783	μ = 25		
Thermal conductivity (dry) according to DIN EN 12664	λ <sub>10,fr</sub> = 0.1509 W/(m·K)		
Thermal conductivity (wet) according to DIN EN 12664	λ <sub>23/80</sub> = 0.188 W/(m·K)		

Material consumption – Interior walls				
Material		Unit	Single layer (per m²)	Double layer (per m²)
AQUAPANEL® Cement Board Indoor		m²	1	2
AQUAPANEL® Maxi Screws		pieces; stud spacing 600 mm	15	21
AQUAPANEL® Joint Adhesive (PU)	(Option 1)	ml	50	50
AQUAPANEL® Tape (10 cm)	(Option 2)	m	2.1	2.1
AQUAPANEL® Joint Filler & Skim Coating – white	(Option 2)	kg (joint treatment)	0.7	0.7
		kg (full-surface skim coat - depth: 4 mm)	2.8	2.8
AQUAPANEL® Board Primer		g	40-60	40-60
AQUAPANEL® Reinforcing Mesh		m²	1.1	1.1
AQUAPANEL® Q4 Finish		kg; layer thickness 1 mm	1.7	1.7
		kg; layer thickness 2 mm	3.4	3.4

Material consumption – Interior ceilings			
Material	Unit	Single layer (per m²)	Double layer (per m²)
AQUAPANEL® Cement Board Indoor	m²	1	2
AQUAPANEL® Maxi Screws	pieces	25	50
AQUAPANEL® Tape (10 cm)	m	2.1	4.2
AQUAPANEL® Joint Filler & Skim Coating – white	kg (joint treatment)	0.7	1.4
	kg (full-surface skim coat - depth: 4 mm)	2.8	2.8
AQUAPANEL® Board Primer	g	40-60	40-60
AQUAPANEL® Reinforcing Mesh	m²	1.1	1.1
AQUAPANEL® Q4 Finish	kg; layer thickness 1 mm	1.7	1.7
	kg; layer thickness 2 mm	3.4	3.4

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Search: Knauf Aquapanel

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