Build exterior walls faster using drylining methods

Knauf AQUAPANEL® Exterior Wall
Become a façade specialist with the Knauf AQUAPANEL® Exterior Wall

The Knauf AQUAPANEL® Exterior Wall is an advanced performance exterior wall system which is built using drywall techniques. It enables dryliners to extend areas of expertise to include the façade.

The Knauf AQUAPANEL® Exterior Wall is fast and easy to build. Each standard construction type includes AQUAPANEL® Cement Board Outdoor panels and accessories for exterior finishing, Knauf profiles, Knauf Insulation materials, and Knauf Gypsum Boards, joint compounds and interior finishing options.

Knauf can provide everything you need to create an exterior drywall construction. There is no need to waste time and effort sourcing different components from different manufacturers.

This installation guide explains how to apply the Knauf AQUAPANEL® Exterior Wall and how to treat interior and exterior surfaces for finishing. It includes step-by-step installation details based on a single stud system between floors.

www.Knauf-AQUAPANEL.com

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AQUAPANEL® Tyvek® StuccoWrap™ is a special climatic membrane made of very fine fibres with a coarse crêpe structure. This climatic membrane is a water barrier from the outside to the inside and allows vapour diffusion from the inside to the outside. Due to its structure, AQUAPANEL® Tyvek® StuccoWrap™ is optimally suited to the requirements of AQUAPANEL® Cement Board Outdoor in water-managed (directly-applied) systems. It is installed as a water-carrying layer directly behind the board layer.  

**Width:** 1.5 m  
**Length:** 75 m  
**m²/roll:** 112.5 m²  
**Packaging:** 16 rolls/pallet

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**AQUAPANEL® Cement Board Outdoor**  
AQUAPANEL® Cement Board Outdoor is the ideal exterior render substrate. It can be used for many different surface finishings such as paint or brick slips. The product is made of Portland cement and aggregate core, with coated glass fibre mesh embedded in back and front surfaces. Ends are square cut and both edges are reinforced and finished smoothly (the EasyEdge®).  

- **Width:** 900 mm  
- **Length:** 1200/2400/1250/2500 mm  
- **Thickness:** 12.5 mm  
- **Weight:** approx. 16 kg/m²  
- **Number of boards:**  
  - 50 pieces per pallet (900 x 1200); (900 x 1250)  
  - 25 pieces per pallet (900 x 2400); (900 x 2500)  
- **Net weight per pallet:**  
  - min. 864/max. 900 kg

- **Width:** 1200 mm  
- **Length:** 900/2000/2400/2500 mm  
- **Thickness:** 12.5 mm  
- **Weight:** approx. 16 kg/m²  
- **Number of boards:**  
  - 50 pieces per pallet (1200 x 900)  
  - 30 pieces per pallet (1200 x 2000); (1200 x 2400); (1200 x 2500); (1200 x 2800); (1200 x 3000)  
- **Net weight per pallet:**  
  - min. 864/max. 1728 kg

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**AQUAPANEL® Cement Board Outdoor Climateshield**  
AQUAPANEL® Cement Board Outdoor Climateshield is the best solution for long-term moisture and wind protection of building structure under rain-proof cladding and masonry. Suitable where wind loads do not exceed 1.55 kN/m² (likely to correspond to a building with 4 storeys). Backing board made of Portland cement and aggregate core reinforced with glass fibre mesh on both sides. Ends are square cut and both edges are reinforced and finished smoothly (the EasyEdge®).  

- **Width:** 900 mm  
- **Length:** 1200/2400/1250/2500 mm  
- **Thickness:** 8 mm  
- **Weight:** approx. 10.5 kg/m²  
- **Number of boards:**  
  - 80 pieces per pallet (900 x 1200); (900 x 1250); (1200 x 900)  
  - 40 pieces per pallet (900 x 2400); (900 x 2500); (1200 x 2400); (1200 x 2500)  
- **Net weight per pallet:**  
  - min. 907.2/max. 1260 kg

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**AQUAPANEL® Tyvek® StuccoWrap™ (water barrier)**

Due to its structure, AQUAPANEL® Tyvek® StuccoWrap™ is optimally suited to the requirements of AQUAPANEL® Cement Board Outdoor in water-managed (directly-applied) systems. It is installed as a water-carrying layer directly behind the board layer.
Fastening

AQUAPANEL® Maxi Screws

AQUAPANEL® Maxi Screws have been specially developed for fixing AQUAPANEL® Cement Board Outdoor and AQUAPANEL® Cement Board Outdoor Climateshield onto frameworks. Both needle point and drill point are available plus countersinks. Screws have a special corrosion-proof coating which gives a guaranteed 720 hours corrosion resistance in a salt spray test.

Packaging:
- SN 39: 500 pieces/carton
- SN 25: 1000 pieces/carton
- SN 55: 250 pieces/carton
- SB 39: 250 pieces/carton
- SB 25: 250 pieces/carton

Collated screws available on request.

<table>
<thead>
<tr>
<th>Metal framework</th>
<th>Timber framework</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Metal thickness 0.6 – 0.7 mm</td>
</tr>
<tr>
<td>Single layer</td>
<td>Double layer</td>
</tr>
<tr>
<td>AQUAPANEL® Maxi Screw SN 25</td>
<td>✓</td>
</tr>
<tr>
<td>AQUAPANEL® Maxi Screw SN 39</td>
<td>✓</td>
</tr>
<tr>
<td>AQUAPANEL® Maxi Screw SN 55</td>
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</tr>
<tr>
<td>AQUAPANEL® Maxi Screw SB 25</td>
<td>✓</td>
</tr>
<tr>
<td>AQUAPANEL® Maxi Screw SB 39</td>
<td>✓</td>
</tr>
<tr>
<td>AQUAPANEL® Rustproofed Screw SN 40</td>
<td>✓</td>
</tr>
</tbody>
</table>

Metal framework Timber framework

Metal thickness 0.6 – 0.7 mm Metal thickness 0.8 – 2.0 mm
Joint treatment

**AQUAPANEL® Joint Filler – grey**

AQUAPANEL® Joint Filler – grey is a cement-bound filling material for filling joints and embedding AQUAPANEL® Tape (10 cm) on AQUAPANEL® Cement Board Outdoor and AQUAPANEL® Cement Board Outdoor Climateshield. It is also used to embed AQUAPANEL® Exterior Reinforcing Tape (33 cm) when the wall is to be painted.

**Packaging:**
- 20 kg/bag
- 48 bags/pallet

**AQUAPANEL® Tape (10 cm)**

AQUAPANEL® Tape (10 cm) is a glass fibre tape with an alkali-resistant coating. It is used to reinforce exterior joints for render finish, glued brick slips, or other applications. It is embedded in the AQUAPANEL® Joint Filler – grey.

**Width:** 10 cm
**Length:** 50 m

**Packaging:**
- 12 rolls/carton

**AQUAPANEL® Exterior Reinforcing Tape**

AQUAPANEL® Exterior Reinforcing Tape is used for joint and corner reinforcement and for reinforcement of openings on AQUAPANEL® Cement Board Outdoor when a paint finish is to be applied.

**Width:** 33 cm
**Length:** 50 m

**Packaging:**
- 12 rolls/carton
Finishing and priming

**AQUAPANEL® Exterior Basecoat**

A Portland cement bound, synthetic resin-enhanced basecoat. AQUAPANEL® Exterior Basecoat serves as complete basecoat on AQUAPANEL® Cement Board Outdoor for rendered or painted surfaces. Minimum layer thickness 5-7 mm. Curing time: 1 day/mm material thickness.

Packaging:
- 25 kg/bag
- 42 bags/pallet

**AQUAPANEL® Exterior Basecoat – white**

A Portland cement bound filling material for full-surface skim coating to a thickness of 5 mm on AQUAPANEL® Cement Board Outdoor. Minimum layer thickness 4-6 mm. Curing time: 1 day/complete layer thickness.

Packaging:
- 25 kg/bag
- 42 bags/pallet

**AQUAPANEL® Reinforcing Mesh**

AQUAPANEL® Exterior Mesh a wide-meshed, alkaline-resistant glass fabric mesh designed for complete cover reinforcement of AQUAPANEL® Exterior Basecoat and AQUAPANEL® Exterior Basecoat – white in the exterior area.

Weight: 160 g/m²
Width: 100 cm
Length: 50 m
Packaging: 30 pieces/pallet
AQUAPANEL® Exterior Basecoat Primer

AQUAPANEL® Exterior Basecoat Primer is a ready-to-use, white-coloured, water-based emulsion for priming basecoated substrates where AQUAPANEL® exterior renders are used. It dries white and regulates the absorbency of the base. **Packaging:** 15 kg pail 24 pails/pallet

Rendering

AQUAPANEL® Exterior Mineral Finish

AQUAPANEL® Exterior Mineral Finish is a mineral finishing render for façade applications with 2 mm grain for use on top of AQUAPANEL® Exterior Basecoat/AQUAPANEL® Exterior Basecoat – white. The product conforms to building material class A1. It allows diffusion and is water-repellent, and can be worked by hand or using a machine. It can be used as a smooth floating finishing render or freely structured using different tools and designs. AQUAPANEL® Exterior Mineral Finish is available in 212 colour shades. **Packaging:** 30 kg/bag 36 bags/pallet

Apply AQUAPANEL® Exterior Equalising Paint on top of AQUAPANEL® Exterior Mineral Finish.

AQUAPANEL® Exterior Equalising Paint

AQUAPANEL® Exterior Equalising Paint is a silicon-resin paint which has been specially developed for equalising AQUAPANEL® Exterior Mineral Finish. It is extremely permeable and water repellent. It is available in 212 colour shades. **Packaging:** 12.5 l pail 32 pails/pallet

Product range

Exterior side
AQUAPANEL® Exterior Dispersion Plaster

AQUAPANEL® Exterior Dispersion Plaster is a ready-to-use finishing render for façade applications with pasty consistency as supplied for use on top of AQUAPANEL® Exterior Basecoat/AQUAPANEL® Exterior Basecoat – white. It has a 2 mm grain. It allows diffusion and is water-repellent, and can be worked by hand or using a machine. AQUAPANEL® Exterior Dispersion Plaster is available in 212 colour shades.

**Packaging:**
- 25 kg pail
- 24 pails/pallet

AQUAPANEL® Exterior Silicon Synthetic Resin Plaster

AQUAPANEL® Exterior Silicon Synthetic Resin Plaster is a ready-to-use silicon-resin finishing render for façade applications with pasty consistency as supplied for use on top of AQUAPANEL® Exterior Basecoat/AQUAPANEL® Exterior Basecoat – white. It has a 2 mm grain. It allows diffusion and is water-repellent, and can be worked by hand or using a machine. The product is flexible and can absorb thermal expansion and contraction without delamination under normal conditions. AQUAPANEL® Exterior Silicon Synthetic Resin Plaster is available in 212 colour shades.

**Packaging:**
- 25 kg pail
- 24 pails/pallet
**Product range**

**Interior side**

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**Lining with gypsum board**

**Gypsum Board**

The ideal standard interior lining for the Knauf AQUAPANEL® Exterior Wall. It offers an economic building solution and is ideal for all types of living spaces without additional requirements.

- **Width:** 1250 mm
- **Length:** 2000/2500/2600/2750/3000 mm
- **Thickness:** 12.5 mm
- **Weight:** 9.2 kg/m²
- **Number of boards:** 50
- **Net weight per pallet:** min. 1150/max. 1725 kg

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**Massivbauplatte**

The ideal interior lining for the Knauf AQUAPANEL® Exterior Wall where a robust solution is required. Especially suited to shaft wall construction.

- **Width:** 625 mm
- **Length:** 2000/2500/2600 mm
- **Thickness:** 25 mm
- **Weight:** 21 kg/m²
- **Number of boards:** 20
- **Net weight per pallet:** min. 525/max. 682.5 kg

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**Impregnated Gypsum Board**

The ideal interior lining of the Knauf AQUAPANEL® Exterior Wall for damp rooms in living areas where there is occasional exposure to water spray. Boards remain impervious to moisture and create an even surface for untiled areas. They are ideal for painting or for further surface finishing (with appropriate sealing for gaps, edges and surfaces).

- **Width:** 1250 mm
- **Length:** 2000/2500/2600/3000 mm
- **Thickness:** 12.5 mm
- **Weight:** 10.2 kg/m²
- **Number of boards:** 50
- **Net weight per pallet:** min. 1275/max. 1912.5 kg
Diamant

The ideal interior lining of the Knauf AQUAPANEL® Exterior Wall where higher mechanical surface resistance is required. This higher density impregnated fire-rated board also achieves a higher sound insulation than standard boards with the same system build-up.

**Width:** 1250 mm  
**Length:** 2000/2500 mm  
**Thickness:** 12.5 mm  
**Weight:** 13.5 kg/m²  
**Number of boards:** 40  
**Net weight per pallet:** min. 1350/max. 1687.5 kg

Vidiwall Gypsum Fibre Board

The ideal interior lining of the Knauf AQUAPANEL® Exterior Wall where higher mechanical surface resistance is required. (Performance is comparable to Diamant Hard Gypsum Board, however, board is not impregnated.)

**Width:** 1250 mm  
**Length:** 2000/2540/2570/3000 mm  
**Thickness:** 12.5 mm  
**Weight:** 14.8 kg/m²  
**Number of boards:** 40  
**Net weight per pallet:** min. 1480/max. 2220 kg

Fireboard

The ideal interior lining of the Knauf AQUAPANEL® Exterior Wall where high fire protection requirements are critical. This special board with glass fleece coating is used for fire-rated linings. In general, the planking thickness is lower compared with standard carton-coated Gypsum Board. An impregnated version is available: Impregnated Fireboard.

**Width:** 1250 mm  
**Length:** 2000 mm  
**Thickness:** 12.5 mm  
**Weight:** 10.7 kg/m²  
**Number of boards:** 50  
**Net weight per pallet:** min. 1337.5 kg
**Product range**

**Interior side**

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**Silentboard**

The ideal interior lining of the Knauf AQUAPANEL® Exterior Wall where high sound reduction is key. Heavier than Diamant Hard Gypsum Board.

- **Width:** 625 mm
- **Length:** 2000/2500 mm
- **Thickness:** 12.5 mm
- **Weight:** 17.5 kg/m²
- **Number of boards:** 42
- **Net weight per pallet:**
  - min. 918.75/max. 1148.44 kg

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**Fastening of gypsum board**

**Drywall Screw**

High quality screws for dry lining with gypsum boards on metal frameworks (metal thicknesses up to 0.7 mm). For single/double/triple layer (depending on length). Suitable for fire-resistant and sound insulating walls.

- **Length:** 25/35/45/55 mm
- **Screw head diameter:** 3.5 mm
- **Packaging:**
  - TN 3.5 x 25, 250 pieces/carton
  - TN 3.5 x 25, 1000 pieces/carton
  - TN 3.5 x 35, 250 pieces/carton
  - TN 3.5 x 35, 1000 pieces/carton
  - TN 3.5 x 45, 250 pieces/carton
  - TN 3.5 x 45, 1000 pieces/carton
  - TN 3.5 x 55, 1000 pieces/carton
Joint compounds and plasters for gypsum board

UNIFLOTT

UNIFLOTT is the standard gypsum compound that is used for filling joints of drywall systems and is applied by hand. This special gypsum-based, synthetic-tempered, powdery material contains mineral filler and additives for easy application. It is used for filling of Gypsum or Composite Boards with HRK (half-rounded edge) or HRAK (half-rounded tapered edge) without joint tape (except cut edge).

**Packaging:**
- 25 kg/bag
- 42 bags/pallet

TRIAS

TRIAS is a gypsum compound that is used for filling joints of drywall systems and is applied by hand. It is adjusted to the colour of the gypsum boards and has a reduced absorption after hardening. TRIAS shows extremely low shrinkage when drying. This special gypsum-based, synthetic-tempered, powdery material contains additives for easy application. It is used for hand filling of Gypsum Boards or Composite Boards with HRK (half-rounded edge) or HRAK (half-rounded tapered edge) on paper covered edges.

**Packaging:**
- 25 kg bag
- 42 bags/pallet

FUGENFÜLLER LEICHT

This gypsum-based powdery material is used for filling joints of drywall systems and is applied by hand. It contains suspending agents and mineral fillers for application range. It is used for hand filling of Knauf Boards with joint tape on paper covered edges, preferably Joint Tape KURT.

**Packaging:**
- 25 kg bag
- 40 bags/pallet
PRODUCT RANGE

INTERIOR SIDE

MULTI-FINISH/MULTI-FINISH M
MULTI-FINISH is a synthetic modified, gypsum-based filling compound and thin plaster. It is suitable for interior applications such as efficient filling of uneven and coarse surfaces, holes and slots. MULTI-FINISH is particularly suitable for the creation of surfaces which comply with surface quality level Q4. In addition, MULTI-FINISH is suitable for the creation of premium interior coloured decorative surface design.

MULTI-FINISH M is a machine-applied filling compound and is exclusively applied using the PFT RITMO powercoat.

Packaging:
- 25 kg bag
- 42 bags/pallet

JOINTFILLER SUPER
JOINTFILLER SUPER is used for joint filling in combination with Joint Tape KURT and for full-surface skim coating also in combination with UNIFLOTT. It contains organic binders and a balanced combination of suspending agents and mineral fillers and experiences very little shrinkage when drying.

JOINTFILLER SUPER can be applied by hand or by machine.

Packaging:
- 20 kg bag
- 42 bags/pallet

READYGIPS
READYGIPS consists of synthetic dispersion as binder and an exactly set up combination of particle-sized mineral calcium sulphate extenders and suspending agent. It is used for indoor skimming of Gypsum Boards. READYGIPS is very easy to sand and produces a very fine surface after drying. For hand filling or machine filling in combination with Joint Tape KURT.

Packaging:
- Pail: 20 kg pail
- 24 pails/pallet
- Bag: 25 kg bag
- 12 bags/pallet
### EASYPUTZ

EASYPUTZ decorative plaster is a pure mineral plaster which can be used to create a structural finish for indoor rooms on top of Gypsum Board. It is ready-made, solvent-free, free of preservatives and perfectly mixed for optimal processing characteristics. EASYPUTZ is available with 0.5 mm and with 1 mm grain and can be applied by pump or by hand. Many colour variants are possible as it can be pigmented with COMPACT-COLOR.

**Packaging:**
- 20 kg pail
- 24 pails/pallet

### Joint Tape KURT

Joint Tape KURT is a 50 mm wide strip of special paper which is used to reinforce the joint filling and edges of Gypsum Boards and Gypsum Fibre Boards. Particularly resistant to tearing.

**Width:** 50 mm  
**Length:** 25 m/roll, 75 m/roll
# Product range

## Interior side

## Priming of gypsum board

### TIEFENGRUND

TIEFENGRUND is a smooth water-based dispersion of synthetic resins which is used to improve adhesion of finishing layers such as paint, plaster or tile adhesive for tiling. It is the standard primer for regular absorbent substrates.

**Packaging:**
- 15 l pail
- 24 pails/pallet

### SPEZIALGRUND

SPEZIALGRUND is a mineral-filled, white pigmented synthetic dispersion which is used to improve adhesion of finishing layers such as paint, plaster or tile adhesive for tiling. It is formulated for smooth and porous surfaces (i.e. non absorbent and strongly absorbent substrates. When smoothed, it creates a surface finishing without visible pores.

**Packaging:**
- 20 l pail
- 24 pails/pallet

### PUTZGRUND

PUTZGRUND is a synthetic resin dispersion filled with fine quartz sand, white pigmented and alkali-resistant. It is used for interior priming on Gypsum Boards before plastering and pre-treatment of absorbent and non-absorbent substrates.

**Packaging:**
- 20 l pail
- 24 pails/pallet
AQUAPANEL® Maxi Screws

AQUAPANEL® Maxi Screws have been specially developed for fixing AQUAPANEL® Cement Board onto frameworks. Both needle point and drill point are available plus countersinks. Screws have a special corrosion-proof coating which gives a guaranteed 720 hours corrosion resistance in a salt spray test.

Packaging:
SN 39: 500 pieces/carton
SN 25: 1000 pieces/carton
SN 55: 250 pieces/carton
SB 39: 250 pieces/carton
SB 25: 250 pieces/carton
Collated screws available on request

Joint treatment and priming of cement board

AQUAPANEL® Joint Adhesive (PU)

AQUAPANEL® Joint Adhesive (PU) is used for wall applications to bond individual AQUAPANEL® Cement Board Indoor panels. There is no need for labour-intensive coating or inserting a joint strip. Drying time only 12 hours compared to wet application (24 hours on average).

Packaging:
310 ml/cartridge
20 cartridges/carton
# AQUAPANEL® Board Primer

AQUAPANEL® Board Primer is a ready-to-use synthetic emulsion filled with fine quartz sand for priming AQUAPANEL® Cement Board Indoor. It regulates absorption of the base for skim coating and provides maximum adhesion of tiles and plasters.

| Packaging: | 15 kg/pail  
24 pails/pallet |

## AQUAPANEL® Joint Filler & Skim Coating - white

AQUAPANEL® Joint Filler & Skim Coating – white is a cement-bound filling material for full-surface skim coating to a thickness of 5 mm on AQUAPANEL® Cement Board Indoor for example before the application of a decorative plaster or paint finish. It can also be used for joint treatment.

| Packaging: | 20 kg bag  
48 bags/pallet |

## AQUAPANEL® Reinforcing Mesh

AQUAPANEL® Exterior Mesh a wide-meshed, alkaline-resistant glass fabric mesh designed for complete cover reinforcement of AQUAPANEL® Joint Filler & Skim Coating - white in the interior area.

| Weight: | 160 g/m² |
| Width: | 100 cm |
| Length: | 50 m |

| Packaging: | 30 pieces/pallet |
GLASFASERFUGENDECKSTREIFEN

Glass fibre joint covering strips are used to reinforce interior joints and to avoid cracks. It can be embedded in gypsum fillers and AQUAPANEL® Q4 Finish.

Width: 50 mm
Length: 25 m/roll
Packaging: 40 rolls/carton

AQUAPANEL® Q4 Finish

AQUAPANEL® Q4 Finish is an innovative filler and water-repellent skim coat that can produce a fine finished surface from Q1 to Q4 standard when used as a coating on AQUAPANEL® Cement Board Indoor (not suitable for areas where water spraying or splashing occurs). For contractors and installers, it offers a new, faster full surface treatment without reinforcement mesh application as an ideal base for smooth, glossy or finely textured wall coverings. To be used with GLASFASERFUGENDECKSTREIFEN glass fibre joint covering strips.

Packaging:
- 20 kg/pail
- 24 pails/pallet

Air-tightness accessories

LDS 100 (vapour barrier)

Vapour control layer made from polypropylene special foil, LDS 100 is resistant to aging (σ-value ≥ 100m). Conforms to EN 13859 and ETAG 007.

Width: 2 m or 4 m
Length:
- 50 m or 25 m
- 10 m²/roll
Packaging:
- 46 or 100 rolls/pallet
# Product range

**Interior side**

## LDS 2 Silk (vapour barrier)

Vapour control layer made from polypropylene spunbonded fabric, LDS 2 Silk is resistant to aging and is resistant to tearing (sd-value ≥ 2m). Conforms to EN 13984 and ETAG 007.

<table>
<thead>
<tr>
<th>Width</th>
<th>1.50 m or 2 m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>50 m</td>
</tr>
<tr>
<td>m²/roll</td>
<td>75 m² or 100 m²</td>
</tr>
<tr>
<td>Packaging</td>
<td>20 rolls/pallet</td>
</tr>
</tbody>
</table>

## LDS Soliplan

Self-adhesive sealant tape which is paper-based. For use in interior applications to bond overlapping layers.

<table>
<thead>
<tr>
<th>Width</th>
<th>60 mm</th>
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</thead>
<tbody>
<tr>
<td>Length</td>
<td>40 m</td>
</tr>
<tr>
<td>Thickness</td>
<td>0.35 mm</td>
</tr>
<tr>
<td>Packaging</td>
<td>8 rolls/carton</td>
</tr>
</tbody>
</table>

## LDS Solifit / LDS Solitwin

Self-adhesive sealant tape which is reinforced polyethylene-based with either full surface or half-surface covering paper. For exterior applications where it is used as an elastic sealant for corners, windows and openings.

<table>
<thead>
<tr>
<th>Width</th>
<th>60 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>25 m</td>
</tr>
<tr>
<td>Thickness</td>
<td>0.28 mm</td>
</tr>
<tr>
<td>Packaging</td>
<td>10 rolls/carton</td>
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</tbody>
</table>
**Product range**

**Metal profiles**

A Knauf AQUAPANEL® Exterior Wall system is constructed with a corrosion-resistant metal framework. Knauf offers a full range of profiles and geometries to suit all applications. Knauf metal profiles are precision-engineered, high-quality steel sections.

Profile thickness is determined by local wind loads and seismic activities.

- For standard applications, profiles from 0.6 mm to 1 mm thickness are sufficient
- Profiles of 1 mm or higher thickness should be used for higher demands
- Depending on climate zones or special applications, slotted profiles should be used to give better thermal insulation of constructions.

### C and CW profiles

- For vertical placement between UW profile rails of substructures for Knauf AQUAPANEL® Exterior Walls
- Corrosion-resistant for water-managed constructions (between floors, in front of floor) and ventilated system constructions
- Can also be used for interior constructions.

### UW profiles

- Horizontal profile rails for floor and ceiling to place C and CW profiles of substructures for Knauf AQUAPANEL® Exterior Walls
- Corrosion-resistant for water-managed constructions (between floors, in front of floor) and ventilated system constructions
- Can also be used for interior constructions.

### UA profiles and angle connections

- Higher thickness profiles
- For vertical placement between UW profile rails of substructures for Knauf AQUAPANEL® Exterior Walls
- For walls with higher wind load requirements
- For higher statics and loading requirements
- Corrosion-resistant for water-managed constructions (between floors, in front of floor) and ventilated system constructions
- Can also be used for interior constructions.
**Slotted profiles**

- Profiles to minimise thermal bridges and therefore prevent heat loss
- Help to improve energy performance of the entire building
- For water-managed constructions (between floors, in front of floor) and ventilated systems constructions.

**Hat profiles**

- For direct application on existing surface
- For ventilated systems constructions, curtain walls and renovation projects
- For constructions with limited space requirements.

**Additional profiles**

- To reinforce corners
- For curved wall applications; for interior use.

**Decoupling Tape**

Self-adhesive tape for decoupling UW and CW profiles that are connected to other building elements (walls, columns, ceilings) so that sound and thermal bridges can be reduced.

- **Thickness:** 3.2 mm
- **Width:** 30/50/70/95 cm
- **Roll length:** 30 m
Product range
Insulation

Glass mineral wool

Knauf Insulation glass mineral wool with ECOSE® Technology meets the highest demands for thermal and sound insulation in buildings. Insulating materials are made from naturally occurring and / or recycled materials and bound with ECOSE® Technology, a binding agent, free of formaldehyde, phenol and acrylic. They are non-combustible, diffusion-open and resistant to aging. Thanks to their compaction and low weight they are easy to lift and transport. Knauf Insulation glass wool conforms to EN 13162 standard.

- **TPM 135 Façade insulating board**: MW EN 13162 T4-WS-WL(P)-AFr5
- **TP 435 B Façade insulating board**: MW EN 13162 T4-WS-WL(P)-AF10
  - Covered with black-coloured glass mat on one side.
- **TI 435 U Façade insulating board**: MW EN 13162 T2-AF5
  - Covered with light-coloured glass mat on one side.

Stone mineral wool

Knauf Insulation stone mineral wool insulation materials meet the highest demands for thermal, sound and fire protection in buildings. Insulating materials are non-combustible and resistant to deformation and aging. Stone wool insulation materials are heavier than glass wool insulation products due to the higher dry density. Knauf Insulation mineral wool conforms to EN 13162 standard.

- **KD 035 Core insulating board**: MW EN 13162 T4-WL(P)
- **KP 035 Clamping board**: MW EN 13162 T4-AF5
- **DPF 50 Fire insulating board**: MW EN 13162 T4-AF5
- **FPL 035 Fire insulating board**: MW EN 13162 T4-AF5
Processing/handling

Transportation and storage

**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.

Use a pallet to support the boards when using mechanical handling equipment. 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. The ambient air and component temperatures may not be below +5°C. Do not apply joint fillers, basecoat or finishing materials in temperatures less than +5°C.

**Profiles**

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

**Insulation**

Insulation materials are supplied enclosed in polythene 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. Installation instructions are on every pack. Products should not be left permanently exposed to the elements.
Processing/handling

Formatting/cut-outs

Boards

Mark the desired shape or opening on the board with pencil and ruler. Use a knife to score the board on one side along the line so that the mesh or 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.

Profiles

Cut profiles up to 0.7 mm thickness using manual or electrical scissors or use an electrical circular saw with special metal blade. When cutting corrosion-resistant profiles, make sure the cut edges are recoated with appropriate material.

Metal thicknesses bigger than 0.7 mm cannot be cut by scissors. 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 a band saw is highly recommended.

To make cut-outs for wiring and pipes, use a jigsaw or keyhole 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.

For special cut-outs e.g. for pipes, services, only use special pre-fabricated slots as available in the profiles.

Insulation

Insulation materials are easy to handle and install, being lightweight and easily cut to size, where necessary using an appropriate knife on flat surface to cut. To minimise thermal bridges insulation should fill the complete stud spaces. Do not use small pieces.
Observe the recommendations regarding the handling and storage of materials given earlier in this section. Consult the appropriate product data sheets and material safety data sheets. In addition the following notes are offered for guidance:

- 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 glass-fibre, wear suitable protection including face mask and gloves. Wear protective glasses when working overhead.

- Follow national health and safety regulations at all times.

A full range of product and safety information sheets are available upon request.
Installation of Knauf AQUAPANEL® Exterior Wall

This is a step-by-step installation guide for a standard one layer one stud exterior wall using AQUAPANEL® Cement Board Outdoor or AQUAPANEL® Cement Board Outdoor Climateshield.

1. Check job site (planning and site preparation)

Conduct general inspection of job site before starting installation procedures. The amount of preparation required will vary from system to system and is also dependent upon the conditions on the site.

Use the correct products for the job:
- Exterior lining
- Interior lining
- Profiles: choose appropriate corrosion resistance
- Insulation: consider the fire, acoustic and thermal performance required

Check statics requirements.
Check other performance requirements.

Establish tolerances, positions of openings such as windows, sills etc. Incorporate deflection heads where specified.

Refer to detailed plans – especially where thermal bridges need to be avoided. Consider cut-outs, electrical installation, heating installations and other services. Check if the installation of services affects the fire or acoustic performance (special detailing should be considered). Minimise the number of openings for services.

2. Create substructure

The steel framework must be designed according to the statics requirements of the construction.

2.1 Prepare UW profile by cutting to appropriate length. Protect cut edge against corrosion using recommended material.

Note: for an exterior wall/water managed system/between floors, the maximum permissible excess length of the UW profile without support is one third of the base element.

See section Installation details for details showing anchoring of UW runner considering tolerances.

2.2 Use decoupling tape between ceiling and floor to avoid acoustic bridges, to fill gaps and to even the surface.

2.3 Mount UW profiles at top and bottom using approved fasteners according to local building regulations (fire resistance) and statics requirements (type and quantity of fasteners). Follow rules for distances. Do not use plastic plugs due to fire regulations.

2.4 Prepare CW profiles by cutting correct lengths for application. Protect cut edge against corrosion using recommended material.

2.5 Mount CW profiles vertically according to height of wall and statics calculation (maximum 600/625 o.c.). Where UW and CW profiles are connected to other building elements such as walls, ceilings and columns, use decoupling tape.

See section Installation details for openings.
3. Installation of water barrier

Note: this step is not required when installing AQUAPANEL® Cement Board Outdoor Climatshield.

3.1 A water barrier is required for installation with AQUAPANEL® Cement Board Outdoor. Use AQUAPANEL® Tyvek® StuccoWrap™ as the water barrier. When installing this, start at the foot of the wall and install the water barrier in a shingle lap manner. Overlap all horizontal and vertical joints a minimum of 10 cm.

3.2 A minimum overlap of 10 cm is marked on the AQUAPANEL® Tyvek® StuccoWrap™.

3.3 Secure the water barrier membrane with adhesive tape or adhesive and immediately apply AQUAPANEL® Cement Board Outdoor panels.

4. Fastening with screws

Fasten AQUAPANEL® Cement Board Outdoor to the framework with AQUAPANEL® Maxi Screws. First fasten the screws into the centre of the cement boards; then work towards the ends and the edges. During installation, make sure the cement boards are resting on the framework.

Screw spacing ≤ 250 mm.
Spacing from edge ≥ 15 mm.

Screws should not be overtightened.

Note: Please observe a gap of 3 – 5 mm between the boards.
Generally, no pre-drilling of boards is required. However, pre-drilling of boards and profiles is needed if the material thickness of the profiles is more than 2 mm (according to static requirements) and when blind rivets are used.

5. Arrangement of AQUAPANEL® Cement Board Outdoor

Apply AQUAPANEL® Cement Board Outdoor panels horizontally with ends over framework. Leave a gap of 3-5 mm between boards using a suitable spacer.

When fitting the subsequent rows of boards, ensure that the vertical joints are offset a minimum of one stud cavity.

6. Joint treatment

6.1 Immediately after assembly, protect the framework from weathering by filling all the joints with AQUAPANEL® Joint Filler – grey.

6.2A Immediately embed AQUAPANEL® Tape (10 cm) centred over all joints.

6.2B If only one coat of paint is to be applied onto AQUAPANEL® Exterior Basecoat or AQUAPANEL® Exterior Basecoat – white, use AQUAPANEL® Exterior Reinforcing Tape which has a width of 33 cm.

6.3 Fill the screw heads with AQUAPANEL® Joint Filler – grey.

At this stage the building envelope is closed and protects from weathering allowing inside crafts to start until façade finishing can start.

Note: At this stage, installation steps for AQUAPANEL® Cement Board Outdoor Climateshield are complete. The cladding system can be attached.
7. Applying basecoat layer and embedding reinforcing mesh

AQUAPANEL® Cement Board Outdoor must be rendered with AQUAPANEL® Exterior Basecoat or AQUAPANEL® Exterior Basecoat – white. This is independent of the possible finishing options (painting, rendering, tiling).

By this stage, joints have been treated and tape has been embedded. Screw heads have been covered with AQUAPANEL® Joint Filler – grey.

7A Cover entire wall with AQUAPANEL® Exterior Basecoat. This is applied by hand using a trowel or by machine (machine recommendation: mixing pump PFT G4 or G5, rotor/stator D4-3, half power, water requirement 200 l/h).

When applying AQUAPANEL® Exterior Basecoat, create a basecoat layer of average 5 mm using a notched tool of 10 mm.

Gently embed/place the mesh.

Add an extra 2 mm basecoat layer with smooth trowel to close the surface and to eliminate unevenness. The thickness of the mesh-reinforced basecoat should be 5-7 mm.

When these steps are completed, the mesh lies in the first third of the basecoat.

Before continuing with the next steps, allow a curing time of 1 day per mm of layer thickness.

7B When using AQUAPANEL® Exterior Basecoat – white, create a basecoat layer of 4 mm using a notched tool of 8 mm. Gently embed/place the mesh. Add an extra 2 mm basecoat layer with smooth trowel to close the surface and to eliminate unevenness. The curing time for the AQUAPANEL® Exterior Basecoat – white (complete layer thickness) is 1 day.

All time specifications given here are depending on the climate conditions.

See section Exterior finishing for more details.
8. Place insulation material

Use the right product for the job depending on whether thermal insulation, acoustic insulation or fire protection is required. Cut insulation to width/length with a sharp long bladed knife.

9. Apply vapour barrier

Make sure all electrical installation has been completed. To ensure air tightness of building construction, apply vapour barrier to the inside if specified in building physical calculation.

Where the wall construction includes a double layer of Gypsum Board, the vapour barrier can be placed between the two layers for fast easy installation.

The vapour barrier must overlap where more than 1 layer is placed. It must also overlap when applied at connections to other building elements.

Use suitable glue and tapes.

Where services penetrate the building elements, ensure that the penetrations are sealed in order to obtain optimum air tightness.

10. Install Gypsum Board (dry applications only)

Screw Gypsum Boards to substructure using Drywall Screws (TN3.5/35).

11. Joint treatment (dry applications only)

Fill joints (e.g. standard Gypsum Board application with HRAK edge). Use trowel to fill joints with suitable joint filler (UNIFLOTT). For double layer system, the joints of the first layer of board must also be filled before placing the second layer of boards.

Run the trowel progressively down the joint applying sufficient pressure to squeeze out entrapped air. Allow the joint filler to set for approx. 1 hour. If required, sand lightly to remove any high spots. Remove surface dust.

Apply an additional thinner layer of joint filler and remove any surplus filler. Feather out application beyond the joints – approximately 100 to 200 mm.

Allow the joint filler to set for approx. 1 hour. If required, sand lightly to remove any high spots. Remove surface dust.
Note on interior finishing
(dry applications only)

Once joints have been filled and after drying, if finishing is not satisfactory, use trowel to apply a tight coat of UNIFLOTT joint filler. Feather out beyond previous application of material. Allow the joint treatment to set. Lightly sand to remove any minor imperfections and create a smooth surface.

If required, apply a final coat of FINISH-PASTÖS and feather out beyond previous application. Lightly sand to remove minor imperfections. Remove surface dust.

Note: Priming the surface will depend on the selected interior finishing option.

See section Interior finishing for more details.
Exterior finishing

Exterior system with render

1. AQUAPANEL® exterior render
2. AQUAPANEL® Basecoat Primer
3. AQUAPANEL® Exterior Basecoat – white plus AQUAPANEL® Reinforcing Mesh
4. AQUAPANEL® Joint Filler – grey plus AQUAPANEL® Tape (10 cm)
5. AQUAPANEL® Cement Board Outdoor

AQUAPANEL® exterior renders are available in 212 colour shades in the following product lines (luminosity of H ≥ 40%):

- AQUAPANEL® Exterior Mineral Finish and AQUAPANEL® Exterior Equalising Paint
- AQUAPANEL® Exterior Dispersion Plaster
- AQUAPANEL® Exterior Silicon Synthetic Resin Plaster

Request the AQUAPANEL® colour fan from Knauf.

Exterior system with paint finish

1. Paint finish
2. AQUAPANEL® Exterior Basecoat – white plus AQUAPANEL® Reinforcing Mesh
3. AQUAPANEL® Joint Filler – grey plus AQUAPANEL® Exterior Reinforcing Tape
4. AQUAPANEL® Cement Board Outdoor

Note: For information on colour systems, refer to recommendations and regulations of the manufacturer.
Exterior system with brick slips plus flexible adhesive

1. Brick slips or tile covering
2. Flexible tile adhesive
3. AQUAPANEL® Exterior Basecoat - white plus AQUAPANEL® Reinforcing Mesh
4. AQUAPANEL® Joint Filler - grey plus AQUAPANEL® Tape (10 cm)
5. AQUAPANEL® Cement Board Outdoor

Glue the brick or tile covering in frost-free conditions using a frost-proof process. Select suitable adhesives according to manufacturers’ recommendations for cement bases.

Note: For thin brick slip and tile applications, the maximum permitted load of tiling including adhesive is 40 kg per square metre. The max. dimensions are limited to 33 by 33 cm.

Contact Knauf if the load or dimensions are higher.
## 1. Interior lining options

The final interior wall lining options depend on the type of application of the Knauf AQUAPANEL® Exterior Wall from the interior wall perspective. Interior linings can be selected depending on standard requirements and needs for moisture rating, fire rating, impact resistance qualities or sound reduction requirements.

See pages 10-12

## 2. Surface finishing and quality levels

Gypsum Boards can be used with every conceivable surface finishing but the quality of the finishing depends on the decorative finish required as part of the contract and the skills of the dryliner.

When closing the joints on the plaster boards, it is possible to achieve four quality levels.

<table>
<thead>
<tr>
<th>Level of finishing</th>
<th>Q1</th>
<th>Q2 (Standard)</th>
<th>Q3</th>
<th>Q4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aesthetic requirements</td>
<td>Jointed surface</td>
<td>Smooth surface for normal optical requirements</td>
<td>Smooth surface for higher visual requirements</td>
<td>Smooth surface for high visual requirements</td>
</tr>
<tr>
<td>Jointed surface</td>
<td>Smooth surface for normal optical requirements</td>
<td>Smooth surface for higher visual requirements</td>
<td>Smooth surface for high visual requirements</td>
<td></td>
</tr>
<tr>
<td>Normal</td>
<td>Enhanced. Few marks and traces under direct light. Shading is still possible under shallow light angles</td>
<td>High end. Minimised appearance of any marks or traces. Shading caused by shallow light angles will be avoided to a large extent.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Application requirements</td>
<td>Joints and screw heads filled, finished to achieve a continuous transition to the board surface, sanded if necessary</td>
<td>Joints and screw heads filled, finished (Q2), plus wide finish travelling and a sharp trowelled full cover of the plaster board surface (filing the paper pores), sanded if necessary.</td>
<td>Joints and screw heads filled, finished (Q2) plus a complete surface covering skim coat of min 1 mm thickness, sanded if necessary.</td>
<td></td>
</tr>
<tr>
<td>Only suitable for functional applications such as stability, fire resistance and sound insulation. E.g. filing joints of the first board layer which is under tile coverings or thick layered plasters.</td>
<td>Medium and coarse-structured wall coverings, matt filling, medium and coarse-structured paint coatings/coats, top coats (particle size/largest particle over 1 mm).</td>
<td>Fine-structured wall coverings, matt, fine-structured paint coatings/coats, top coats (largest particle size less than 1 mm).</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>Flatness requirements</td>
<td>Refer to National standards</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Priming the surface will depend on the selected interior finishing option. Quality level of surface finishing depends on the skills of the dryliner.

Quality classification according to leaflet no 2 “Skimming of Plaster Boards - Surface Qualities” of the Plasterboard Industry Group Association, which provides for four levels of quality.
3. Joint treatment: Gypsum Boards

In order to close the joints and to prepare the surface for the finishing options the following materials can be used:

**UNIFLOTT:** “The original”

**TRIAS:** “The efficient”

**READYGIPS:** “The quickstarter”

**MULTI-FINISH/MULTI-FINISH M:** “The noble”

Joint Tape KURT

PUTZGRUND
Quality levels

HRAK - semi-circular flattened longitudinal edge / HRK - semi-circular longitudinal edge / AFK - long side panel edge
TRIAS / UNIFLOTT / UNIFLOTT impregnated

Cut edge and develled/mixed joint
TRIAS / UNIFLOTT / UNIFLOTT impregnated

Q1
The technically required surface – without optical requirements
TRIAS / UNIFLOTT / UNIFLOTT impregnated

Q2
For surfaces with conventional optical requirements
TRIAS / UNIFLOTT / UNIFLOTT impregnated

Q3
For surfaces with higher optical requirements
TRIAS / UNIFLOTT / UNIFLOTT impregnated READYGIPS

Q4
For surfaces with highest optical requirements
TRIAS / UNIFLOTT / UNIFLOTT impregnated READYGIPS or PUTZGRUND and MULTI-FINISH / MULTI-FINISH M

TRIAS / UNIFLOTT / UNIFLOTT impregnated READYGIPS or PUTZGRUND and MULTI-FINISH / MULTI-FINISH M
### 4. Joint treatment: AQUAPANEL® Cement Board Indoor

The cement boards are glued with AQUAPANEL® Joint Adhesive (PU). After hardening, the excess AQUAPANEL® Joint Adhesive (PU) must be scraped off – usually the next day. After priming with AQUAPANEL® Board Primer, **the system is ready for tiling**.

### 4a. Standard application to achieve impact-resistant walls

**Option 1: System using AQUAPANEL® Joint Filler & Skim Coating – white.**

**Step 1**
**To achieve Q1 quality**
Scrape off the hardened AQUAPANEL® Joint Adhesive (PU). Prime the whole surface with AQUAPANEL® Board Primer.

**Step 2**
**To achieve Q2 quality**
Coat the whole surface with the AQUAPANEL® Joint Filler & Skim Coating – white and embed mesh. Apply a second thin layer of AQUAPANEL® Joint Filler & Skim Coating – white. Smooth the surface.

**Note:** Impact resistance is now achieved.

**Option 2: System using AQUAPANEL® Q4 Finish only.**

**This quick option without reinforcement.**

**Step 1**
Scrape off the hardened AQUAPANEL® Joint Adhesive (PU). Prime the whole surface with AQUAPANEL® Primer.

**Step 2**
Cover the joints with AQUAPANEL® Q4 Finish embedding a glass fibre tape. Use an additional thin layer of AQUAPANEL® Q4 Finish to fill the screw heads. Any excess material should be removed.

**Step 3**
Apply an additional layer of AQUAPANEL® Q4 Finish of around 20 cm so it overlaps the first layer by approx. 5 cm on each side. Fill the screw heads and remove excess material.

### 4b. Application without reinforcing mesh (non-spray-water environments).

**Option 2: System using AQUAPANEL® Q4 Finish only.**

**This quick option without reinforcement.**

**Step 1**
Scrape off the hardened AQUAPANEL® Joint Adhesive (PU). Prime the whole surface with AQUAPANEL® Primer.

**Step 2**
Cover the joints with AQUAPANEL® Q4 Finish embedding a glass fibre tape. Use an additional thin layer of AQUAPANEL® Q4 Finish to fill the screw heads. Any excess material should be removed.

**Step 3**
Apply an additional layer of AQUAPANEL® Q4 Finish of around 20 cm so it overlaps the first layer by approx. 5 cm on each side. Fill the screw heads and remove excess material.

### Additional finishing option:

**Step 3**
**To achieve Q3 quality**
After the surface is dry, sand the entire surface with a 120 grid or finer.

**Step 4**
**To achieve Q4 quality**
Remove all dust. Apply a thin layer of AQUAPANEL® Q4 Finish and sand. Q4 quality can be achieved, depending on skills of dryliner. (AQUAPANEL® Q4 Finish not suitable with spray water).
Step 4
To achieve Q3 quality
Apply AQUAPANEL® Q4 Finish with a trowel to put a layer with a thickness of at least 1 mm. After drying, the surface probably has to be sanded. Continue to add a further layer of AQUAPANEL® Q4 Finish with a thickness of 0.5 mm. When this is dry, sand the entire surface with a 120 grid or finer.

Step 5
To achieve Q4 quality
Apply a very thin layer of AQUAPANEL® Q4 Finish and sand. Q4 quality, depending on skills of dryliner, is achieved.
**Installation details**

**Installation of openings**

**Boards**

When creating window/door openings, consider building statics requirements and create auxiliary structure. Consider vapour barrier for sealing interior lining according to building specifications.

**Step 1**
Place the substructure in the correct position and install necessary anchors. Apply AQUAPANEL® Tyvek® StuccoWrap™ starting from the bottom-up.

**Step 2**
Apply AQUAPANEL® Tyvek® StuccoWrap™ horizontally. Self-adhesive tape can be used to fix AQUAPANEL® Tyvek® StuccoWrap™ before panels are installed.

**Step 3**
At the top horizontal reveal, apply an additional piece of AQUAPANEL® Tyvek® StuccoWrap™ (see pattern) and secure with glue. Overlap all joints with minimum of 15 cm.

**Step 4**
Apply the water barrier in a shingle lap manner. Overlap all horizontal and vertical joints with a minimum of 10 cm. When applying AQUAPANEL® Tyvek® StuccoWrap™ around openings, incisions are required.

**Step 5**
At the bottom horizontal reveal, an additional piece of AQUAPANEL® Tyvek® StuccoWrap™ (see pattern) should be applied and secured with tape. Overlap all joints with minimum of 15 cm.

**Step 6**
Fold AQUAPANEL® Tyvek® StuccoWrap™ into the vertical reveals and secured with tape.

**Step 7**
Reinforce window corners with an extra piece of tape, which is applied at an angle of 45°. Use the same tape which is used to attach the vapour barrier.
Installation details

Windows and door openings only

Take the boards up to the window and down to the window ledge. There must be no continuous joints as these could lead to cracks and leaks.

Reinforce window corners with extra pieces of AQUAPANEL® Reinforcing Mesh, size 50 x 30 cm, applied as shown.

Connections

Note: It is important to seal all connections to prevent leakage.

When connecting to a solid wall, the two walls need to be decoupled to allow flexibility for movement and eliminate stress.

When connecting to a column, the wall and ceiling need to be decoupled to allow flexibility for movement and eliminate stress.

Ensure wind and air tightness through effective overlapping of AQUAPANEL® Tyvek® StuccoWrap™ and the vapour barrier.

Ill. T-connection exterior wall to interior wall, single stud system.

Ill. T-connection exterior wall to interior wall, double stud system.

Reinforcing corners

Corners are reinforced by applying AQUAPANEL® Exterior Basecoat AQUAPANEL® Exterior Basecoat – white. To protect the corners, place a corner profile using the AQUAPANEL® Exterior Basecoat.
**Sliding ceiling connection**

Incorporate deflection heads where specified. Make sure the distances between anchors and brackets, as well as their dimensions, are according to statics requirements. Use appropriate fasteners according to the type of application.

**Ceiling socket floor connection**

Use appropriate fasteners according to the type of application.
**AQUAPANEL® Cement Board Outdoor**

AQUAPANEL® Cement Board Outdoor is ideally suited for applications such as arches and curved walls. These must be pre-formed dry before installing the boards.

Before installation, bend the cement board panel. The fine cracks that occur on the board surface will not cause any loss of performance. Install the framework (relevant curved shape) to take the pre-formed AQUAPANEL® Cement Board Outdoor. For small radii, we recommend the additional installation of studs and support sections. A distance of no more than 300/312.5 mm should be chosen for the studs or support sections. The radii of curvature of AQUAPANEL® Cement Board are possible up to determined radii of the overall construction.

**Bending radius:**
- Board size: 900 x 1200/2400/1250/2500 mm; minimum bending radius ≥ 3 m
- Board size: 1200 x 900 / 2000 / 2400 / 2500 / 2800 / 3000; minimum bending radius ≥ 3 m
- Strip size: 300 x 1200/2400/1250/2500 mm; minimum bending radius ≥ 1 m.
Curved wall and façade constructions

Inside arch - concave, outside arch - convex

Details  Scale 1:5

Board thickness | Bending radius r of AQUAPANEL® Cement Board Outdoor
--- | ---
\(d\) | Width 300 mm Width 900 mm

mm | mm

12.5 | \(\geq 1000\) \(\geq 3000\)

Length of layout-L

Angle \(\alpha = 90^\circ\) | Angle \(\alpha = 180^\circ\) | All angles up to \(\alpha = 180^\circ\)

Note: AQUAPANEL® Cement Board Outdoor must be pre-bent dry before installing. Fine cracks that occur on the board surface will not cause any loss of performance or stability. Stud spacing: \(\leq 300/\mathbin{/}312.5\) mm (outside radius).

Installation of AQUAPANEL® Cement Board Outdoor with different radius

Assembly with 900 mm or 1200 mm width panels for \(r \geq 3.0\) m

Assembly with 300 mm width panels for \(r \geq 1.0\) m
Installation details
Curved interior walls

Gypsum Board
Gypsum Board may be used to form almost any cylindrically curved surface. To prevent flat spots on the curved surface, profiles must be spaced more closely together than required for typical flat wall or ceiling surfaces.

Gypsum Board should be bent wet. Evenly spray water on the surface so that the water is allowed to soak into the core before application. The board must be dried within 24 hours of wetting to prevent the development of mould. Fans and mechanical dehumidifiers should be used to accelerate drying when conditions are not conducive to natural drying. When the Gypsum Board dries thoroughly, its original hardness is regained.
Curved interior wall construction

Inside arch - concave, outside arch - convex

Bending process

Wet bending
1. Put the cut-to-length Gypsum Boards on a grid made of channels or similar with the side to be compressed on top and exceeding the grid on the perimeters (so excess water can drip off).
2. Perforate the board laterally and longitudinally with spike roller.
3. Wet the board by spraying or with lambskin roller and let it settle for a few minutes. Repeat process until excessive water drains.
4. Lay board on precast moulding device, fix with tape and let it dry.

Dry bending
1. Bend Gypsum Boards over metal grid or frame.
2. Fix with Drywall Screws following the bending continuously.
3. Connect CW profiles to pre-punched UW profiles by crimping.
4. Cladding lateral.

Details  Scale 1:5

<table>
<thead>
<tr>
<th>Board thickness</th>
<th>Bending radius r of AQUAPANEL® Cement Board Outdoor</th>
</tr>
</thead>
<tbody>
<tr>
<td>d mm</td>
<td>Dry bending mm</td>
</tr>
<tr>
<td>6.5</td>
<td>≥ 1000</td>
</tr>
<tr>
<td>9.5</td>
<td>≥ 2000</td>
</tr>
<tr>
<td>12.5</td>
<td>≥ 2750</td>
</tr>
</tbody>
</table>

Length of layout L

<table>
<thead>
<tr>
<th>Angle α</th>
<th>Length of layout L</th>
</tr>
</thead>
<tbody>
<tr>
<td>90°</td>
<td>Angle α = 90°</td>
</tr>
<tr>
<td>180°</td>
<td>All angles up to α = 180°</td>
</tr>
</tbody>
</table>

Assembly
1. Cut outside flange at web punches.
2. Bend UW profiles to required radius.
3. Connect CW profiles to pre-punched UW profiles by crimping.
4. Cladding lateral.

Spacing CW profiles: ≤ 312.5 mm (outside radius)
Spacing anchor: ≤ 300 mm
Material consumption tables

### Exterior side

<table>
<thead>
<tr>
<th>Material requirement: AQUAPANEL®</th>
<th>Unit</th>
<th>Per m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>AQUAPANEL® Cement Board Outdoor (single layer)</td>
<td>m²</td>
<td>1.0</td>
</tr>
<tr>
<td>AQUAPANEL® Cement Board Outdoor Climateshield</td>
<td>m²</td>
<td>1.0</td>
</tr>
<tr>
<td>AQUAPANEL® Tyvek® StuccoWrap™</td>
<td>m²</td>
<td>1.1</td>
</tr>
<tr>
<td>AQUAPANEL® Maxi Screws (SN, SB)</td>
<td>pieces</td>
<td>15 m², stud spacing 600 mm</td>
</tr>
<tr>
<td>AQUAPANEL® Maxi Screws (SN, SB)</td>
<td>pieces</td>
<td>20 m², stud spacing 400 mm</td>
</tr>
<tr>
<td>AQUAPANEL® Maxi Screws (SN, SB)</td>
<td>pieces</td>
<td>25 m², stud spacing 300 mm</td>
</tr>
<tr>
<td>AQUAPANEL® Rustproofed Screw</td>
<td>pieces</td>
<td>15 m², stud spacing 600/625 mm</td>
</tr>
<tr>
<td>AQUAPANEL® Joint Filler — grey</td>
<td>kg</td>
<td>0.7</td>
</tr>
<tr>
<td>AQUAPANEL® Tape (10 cm)</td>
<td>m</td>
<td>2.1</td>
</tr>
<tr>
<td>AQUAPANEL® Exterior Reinforcing Tape</td>
<td>m</td>
<td>2.1</td>
</tr>
<tr>
<td>AQUAPANEL® Exterior Basecoat</td>
<td>kg</td>
<td>7.8 dry layer thickness 5 mm</td>
</tr>
<tr>
<td>AQUAPANEL® Exterior Basecoat — white</td>
<td>kg</td>
<td>6.3 dry layer thickness 4 mm</td>
</tr>
<tr>
<td>AQUAPANEL® Reinforcing Mesh</td>
<td>m²</td>
<td>1.1</td>
</tr>
<tr>
<td>AQUAPANEL® Basecoat Primer</td>
<td>g</td>
<td>100-150</td>
</tr>
<tr>
<td>AQUAPANEL® Exterior Mineral Finish</td>
<td>kg</td>
<td>approximately 3.1 for a 2 mm layer (grain size 2 mm)</td>
</tr>
<tr>
<td>AQUAPANEL® Exterior Equalising Paint</td>
<td>l</td>
<td>0.22 (for AQUAPANEL® Exterior Mineral Finish)</td>
</tr>
<tr>
<td>AQUAPANEL® Exterior Dispersion Plaster</td>
<td>kg</td>
<td>3.1 (grain size 2 mm)</td>
</tr>
<tr>
<td>AQUAPANEL® Exterior Silicon Synthetic Resin Plaster</td>
<td>kg</td>
<td>3.1 (grain size 2 mm)</td>
</tr>
</tbody>
</table>
# Interior side

<table>
<thead>
<tr>
<th>Material requirement</th>
<th>Unit</th>
<th>Per m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gypsum Board (single layer)</td>
<td>m²</td>
<td>1</td>
</tr>
<tr>
<td>Drywall Screw</td>
<td>pieces</td>
<td>20</td>
</tr>
<tr>
<td>UNIFOTT</td>
<td>kg</td>
<td>0.5</td>
</tr>
<tr>
<td>TRIAS</td>
<td>kg</td>
<td>0.5</td>
</tr>
<tr>
<td>FUGENFÜLLER LEICHT</td>
<td>kg</td>
<td>0.5</td>
</tr>
<tr>
<td>READYGIPS</td>
<td>kg; joint filling, surface quality level Q2 (4AK boards)</td>
<td>depends on joint ratio</td>
</tr>
<tr>
<td></td>
<td>kg; full surface scrape filling, surface quality level Q3 based on Q2</td>
<td>0.7</td>
</tr>
<tr>
<td></td>
<td>kg; full area skim coating e.g. surface quality level Q4</td>
<td>1.5</td>
</tr>
<tr>
<td>JOINTFILLER SUPER</td>
<td>kg</td>
<td>0.6</td>
</tr>
<tr>
<td>MULTI-FINISH /MULTI-FINISH IN</td>
<td>kg; layer thickness 1 mm</td>
<td>1.0</td>
</tr>
<tr>
<td>EASYPUTZ (1 mm grain size)</td>
<td>g</td>
<td>950</td>
</tr>
<tr>
<td></td>
<td>(0.5 mm grain size)</td>
<td>g</td>
</tr>
<tr>
<td>Joint Tape KURT</td>
<td>m</td>
<td>2.1</td>
</tr>
<tr>
<td>TIEFENGRUND</td>
<td>ml</td>
<td>70 – 100</td>
</tr>
<tr>
<td>SPEZIALGRUND</td>
<td>g</td>
<td>100 – 200</td>
</tr>
<tr>
<td>PUTZGRUND</td>
<td>kg</td>
<td>0.25</td>
</tr>
<tr>
<td>AQUAPANEL® Cement Board Indoor</td>
<td>m²</td>
<td>1</td>
</tr>
<tr>
<td>AQUAPANEL® Maxi Screws (SN, SB)</td>
<td>pieces</td>
<td>20, stud spacing 400 mm</td>
</tr>
<tr>
<td>AQUAPANEL® Maxi Screws (SN, SB)</td>
<td>pieces</td>
<td>25, stud spacing 300 mm</td>
</tr>
<tr>
<td>AQUAPANEL® Maxi Screws (SN, SB)</td>
<td>pieces</td>
<td>15, stud spacing 600/625 mm</td>
</tr>
<tr>
<td>AQUAPANEL® Joint Adhesive (PU)</td>
<td>ml</td>
<td>50</td>
</tr>
<tr>
<td>AQUAPANEL® Board Primer</td>
<td>g</td>
<td>40 – 60</td>
</tr>
<tr>
<td>AQUAPANEL® Joint Finish &amp; Skim Coating - white</td>
<td>kg; layer thickness 1 mm</td>
<td>0.7 (3.5 dry layer thickness 5 mm)</td>
</tr>
<tr>
<td>AQUAPANEL® Reinforcing Mesh</td>
<td>m²</td>
<td>1.1</td>
</tr>
<tr>
<td>AQUAPANEL® Q4 Finish</td>
<td>kg; layer thickness 1 mm</td>
<td>1.7 (3.4 dry layer thickness 2 mm)</td>
</tr>
<tr>
<td>GLASFASERFUGENDECKSTREIFEN</td>
<td>m</td>
<td>2.1</td>
</tr>
</tbody>
</table>
**Tool recommendations**
for building a Knauf AQUAPANEL® Exterior Wall

**Knife**
- Use to cut insulation to appropriate size

**Scissors/shears**
- Use to cut metal profiles

**Knife**
- Use to cut cement boards and gypsum boards: mark the required size on the board with a ruler and pencil. Score one side with a knife, cutting through the mesh or paper. Snap the board along the score. Then cut the mesh/paper on the opposing side.

**Pendulum jigsaw**
- For sharp-edged cuts and to make cut-outs for wiring and pipes, use a pendulum jigsaw fitted with a carbide or diamond-tipped blade. The diameter of the hole for a pipe should be approximately 10 mm larger than that of the pipe.

**Screw gun**
- To fasten the boards with screws use a screw gun with depth control. This ensures that all screws are countersunk in the same correct way.

**Agitator**
- Use to mix interior plasters, skimcoats and exterior renders. A tool with 600 rpm is recommended.

**Hand held circular saw**
- For sharp-edged cuts, use a hand-held circular saw with a dust extractor fitted with a carbide or diamond-tipped blade.
Trowels

Use different kinds of trowels to apply joint fillers, skim coats, basecoat, renders etc.

To ensure the correct amount of material is placed on the board, use a notched trowel with the appropriate teeth. For example, use a 10 mm notched trowel to apply the AQUAPANEL® Exterior Basecoat onto the board.

Knauf PFT G4/G5

Use to mix interior plasters, skim coats and exterior renders.

Miscellaneous tools

- Folding ruler
- Pencil
- Chalk line tool
- Spirit level
Reference of additional documentation

**Information on interior systems with Knauf Gypsum Board**
- W11 Knauf Metal Stud Partitions
- Brandschutz mit Knauf
- Knauf Wände – Schallschutz mit System – Anforderungen, Empfehlungen, Berechnungsverfahren

**Information on special interior Knauf panels**
- K716 Knauf Diamant
- W15 Knauf Diamant
- D179 Knauf Soundboard
- K451 / K751 Fireboard
- K717 Knauf Silentboard
- K811 Knauf Vidiwall
- W35 / W61 / W62 Massivbauplatte

**Information on Knauf gypsum joint compounds**
- K432 Knauf Trennfix
- K434 Knauf Dichtungsband
- K442a Knauf Fugendeckstreifen Kurt
- K451 Knauf Tiefengrund
- K459 Knauf Spezialgrund
- K462 Knauf Finish Pastös
- K462 Knauf Fugenfüller Leicht
- K463 Knauf Jointfiller Super
- K464 Knauf Readygips
- K467 Knauf Uniflott

Zeige mir deine Fugen und ich sag dir, wer du bist
Trockenausbau – einfach, schnell und sicher
Knauf Readygips – Hochwertige Oberflächen mit Spaßfaktor
Perfektion hat Hintergründe – Grundierungen von Knauf

**Information on interior systems with AQUAPANEL® Cement Board Indoor**
- AQUAPANEL® Interior Systems
- W38I AQUAPANEL® Cement Board Indoor

**Information on Knauf Insulation**
Lufdichthkeit schützt die Bausubstanz
AQUAPANEL® is a technologically advanced building system. Because it’s a system, it involves clear step-by-step process from design idea to project completion. AQUAPANEL® cement board panels, accessories and services work in unison— you can be certain that your project will all come together as planned.

www.Knauf-AQUAPANEL.com

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