

## Knauf Bullet-Resistant Partitions



Bullet resistance

### Note on English translation / Hinweise zur englischen Fassung

This is a translation of the system catalogue valid in Germany.

All stated details and properties are in compliance with the regulations of the German standards and building regulations. They are only applicable for the specified products, system components, application rules, and construction details in connection with the specifications of the respective certificates and approvals.

Knauf Gips KG denies any liability for applications outside of Germany as this requires changes acc. to the respective national standards and building regulations.

Dies ist eine Übersetzung des in Deutschland gültigen Detailblattes. Alle angegebenen Werte und Eigenschaften entsprechen den in Deutschland gültigen Normen und bauaufsichtlichen Regelungen. Sie gelten nur bei Verwendung der angegebenen Produkte, Systemkomponenten, Anwendungsregeln und Konstruktionsdetails in Verbindung mit den Vorgaben der bauaufsichtlichen Nachweise.

Die Knauf Gips KG lehnt jegliche Haftung für Einsatz und Anwendung außerhalb Deutschlands ab, da in diesem Fall eine Anpassung an nationale Normen und bauaufsichtliche Regelungen notwendig ist.



### General user information


This brochure contains information on the Knauf Bullet-Resistant Partition.

Knauf systems ensure that you are always on the safe side.

Supplementary details and further constructional details can be found in the system data sheets. They can be downloaded or requested from **Knauf Direkt** (Technical Advisory Service).

[www.knauf.de](http://www.knauf.de)

### Note

Constructional solutions marked with  are not an integral part of the corresponding National Technical Test Certificate (ABP), but are evaluated by Knauf as a non-significant divergence thereof. The documents (e.g. surveyors reports, technical assessments) on which this evaluation is based are included in the ABP. The design must be coordinated and authorised in advance in consultation between the persons responsible for fire protection and / or the relevant authorities.

**The structural, statical properties, and characteristic building physics of Knauf systems can solely be ensured with the exclusive use of Knauf system components, or other products expressly recommended by Knauf.**

### Note on "Cover sheet ABPs"

Constructions that are building authority certified by a so-called "Cover sheet ABP" (valid up to 31 December 2014), contain information such as design variants, detailed drawings and assembly procedures on the basis of the ABP of the same name valid up to 1 April 2014. These details have been assessed by Knauf as non-significant divergences in accordance with the letter from the expert building engineering commission of the building ministers conference of 11 March 2014 and 24 March 2014. The divergences must be agreed upon by the user and building supervisory authority in conjunction with the proof valid up to 1 April 2014.

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The permissible wall heights for the respective system are stated depending on the installation zone acc. to DIN 4103-1 in this brochure.

## Installation zone 1

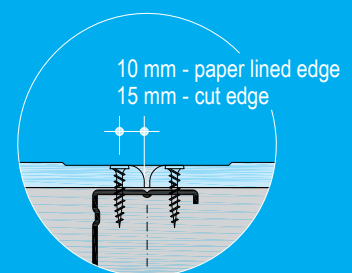
Walls in rooms with low traffic, e.g. dwellings, hotels, office and hospital rooms including corridors and halls or similar facilities.

## Installation zone 2

Walls in rooms with high traffic, e.g. meeting halls, school classrooms, lecture rooms, exhibition halls and sales rooms and rooms with floor height differences of  $\geq 1$  m (partition walls acting as barriers).

### ► Good to know

Screw fastening for optimum sound insulation





► **Good to know**

With combined cladding, the values for Knauf Feuerschutzplatte (Fire-Resistant Board) apply for cantilever loads and partition heights. Additional security is achieved in combination with Diamant boards.

# Knauf Safety Engineering

## Products for your safety

### **Diamant**







Knauf Diamant boards are hard gypsum boards of type GKFI acc. to DIN 18180 or DFH2IR acc. to EN 520 and consist of an impregnated special gypsum core with a premium board liner cover.

### **Safeboard**

Knauf Safeboard is a lead-free X-Ray Shielding Board for X-ray equipment designed to shield against radiation and is compliant with board type GKF acc. to DIN 18180 and DF acc. to EN 520.

## Knauf boards

Extract from Knauf product range

Board type		Dimensions in mm		Short designation		Board edge Long edge
		Thick- ness	Width	DIN	EN	
Gypsum boards acc. to DIN 18180 and EN 520						Reaction to fire A2-s1,d0 (B)
Bauplatte Wallboard	GKB	12.5	1250	GKB	A	Half-rounded tapered edge 
	GKBI	12.5	1250	GKBI	H2	
Safeboard	GKF	12.5	625	GKF	DF	Half-rounded edge 
Knauf Feuerschutzplatte fire-resistant board	GKF	12.5	1250	GKF	DF	Half-rounded tapered edge 
	GKFI	12.5	1250	GKFI	DFH2	
Diamant	GKFI	12.5	1250	GKFI	DFH2IR	Half-rounded tapered edge 
Gypsum board products from reprocessing DIN 18180 or EN 14190						Reaction to fire A2-s1,d0 (C.3)
X-Ray Shielding Board lead sheet	GKF	12.5 + lead sheet	625	GKF	Procedure g	Half-rounded edge 
Gypsum fibre boards EN 15283-2						Reaction to fire A1
Torro		28.0	600	-	GF-W1DIR1	Cut edge 

GKFI: Gypsum core with additional special impregnation against the absorption of moisture. Board suitable for areas of moderate humidity.

► Good to know

Always use Diamantschraube screws when cladding using Diamant or Safeboard



Short designation according to EN 520	Explanation
A	Gypsum plasterboards with a face to which suitable gypsum plasters or decoration may be applied
D	Gypsum plasterboards with controlled density
F	Gypsum plasterboard with improved core adhesion at high temperature
H2	Gypsum plasterboard with reduced water absorption rate
I	Gypsum plasterboard with enhanced surface hardness
R	Gypsum plasterboard with enhanced strength

Product Data Sheets  
[K716F.de](http://K716F.de) Knauf Diamant  
[K762.de](http://K762.de) Knauf Safeboard  
[www.knauf.de](http://www.knauf.de)





# Bullet-resistant partitions

Caution firearms in use

## Requirements and characteristics

Resistance class FB4 covers the largest handgun calibre tested acc. to EN 1522, the 44 Remington Magnum, as well as all lower resistance classes. For assignment to a resistance class, the test object may not be fully penetrated when hit by a projectile with the corresponding ammunition calibre.

The suffix "S" or "NS" indicates whether splintering occurred during the test. "NS" indicates non-splintering.



*Test object after ballistics test*



### Classification and requirements for testing with handguns and rifles

Class	Type of weapon	Calibre	Ammunition		Ballistics parameters	
			Type	Weight g	Test distance m	Projectile velocity m/s
FB1	Rifle	22LR	L/RN	2.6 ± 0.1	10 ± 0.5	360 ± 10
FB2	Handgun	9 mm Luger	FJ <sup>1)</sup> /RN/SC	8.0 ± 0.1	5 ± 0.5	400 ± 10
FB3	Handgun	357 Magnum	FJ <sup>1)</sup> /CB/SC	10.2 ± 0.1	5 ± 0.5	430 ± 10
FB4	Handgun	357 Magnum	FJ <sup>1)</sup> /CB/SC	10.2 ± 0.1	5 ± 0.5	430 ± 10
	Handgun	44 Remington Magnum	FJ <sup>2)</sup> /FN/SC	15.6 ± 0.1	5 ± 0.5	440 ± 10
FB5	Rifle	5.56 x 45	FJ <sup>2)</sup> /PB/sCP1	4.0 ± 0.1	10 ± 0.5	950 ± 10
FB6	Rifle	5.56 x 45	FJ <sup>2)</sup> /PB/sCP1	4.0 ± 0.1	10 ± 0.5	950 ± 10
		7.62 x 51	FJ <sup>1)</sup> /PB/SC	9.5 ± 0.1	10 ± 0.5	830 ± 10
FB7	Rifle	7.62 x 51	FJ <sup>2)</sup> /PB/HC1	9.8 ± 0.1	10 ± 0.5	820 ± 10

Range of W161.de up to FB4

■ FJ = full metal jacket 1) Steel 2) Copper

Extract from the EN 1522, February 1999

#### Application areas

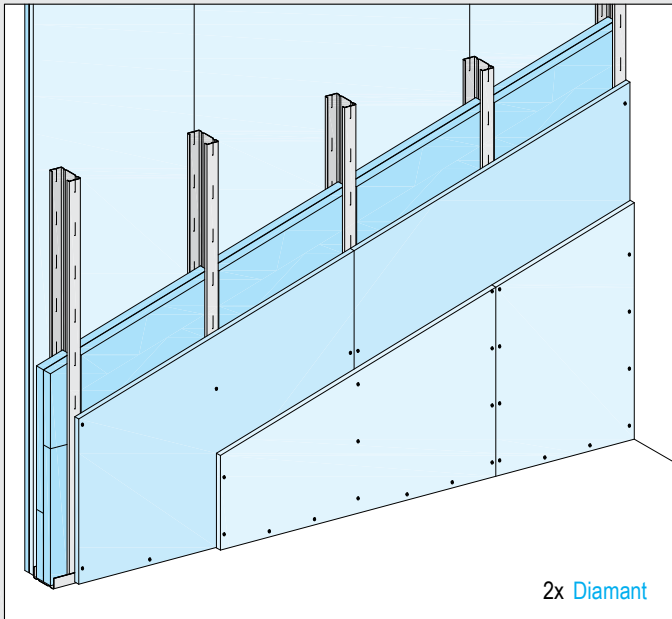
Bullet-resistant partitions offer security where there is a need for increased protection.

Examples include:

- Banks
- Protection of persons
- Embassies
- Police stations
- Military facilities
- Public buildings
- VIP areas
- Panic rooms

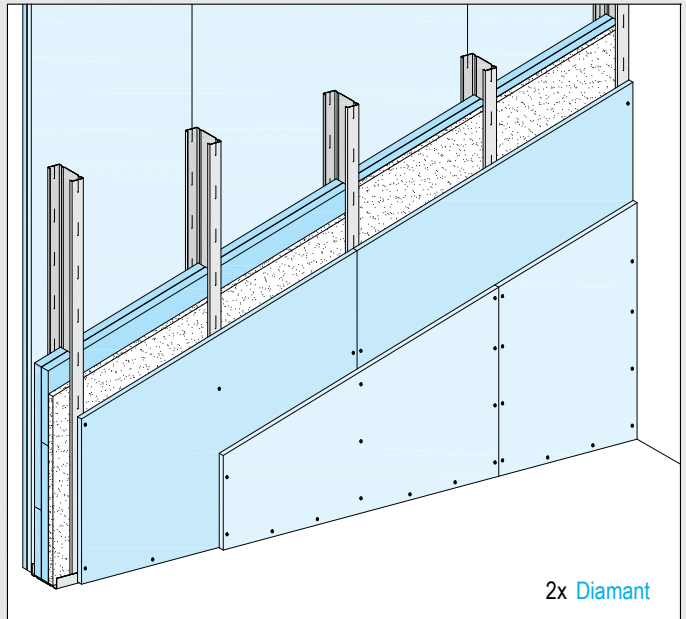
## Construction

W161.de with CW 75



**Bullet-resistant partition FB4**  
Resistance class FB4 NS

W161.de with CW 100



**Bullet-resistant partition FB4 with insulation layer**  
Resistance class FB4 NS

### Additional benefits for everyday use

- Higher dowel loads possible with Diamant
- Premium quality and robust surfaces with Diamant

### ► Good to know

- Surface mounting of electrical equipment is preferred
- Flush-mounted solutions on request

# W161.de Knauf FB4

## Bullet-resistant partition

Knauf FB4 Bullet Resistant Partitions have been designated to resistance class FB4 NS in acc. to EN 1522 after testing by the Beschussamt (state ballistics office) in Ulm, Germany.

### The product for your safety

#### Knauf Torro

Safety is achieved by using the high-strength, highly-compressed gypsum fibre board Knauf Torro in the partition cavity. Two layers of 28 mm thick boards ensure that a calibre 44 Remington Magnum projectile when fired stays embedded at half way, that is between both board layers (see the image on page 6). The reason for this is the strength of the board along with the simultaneous ductility (deformability) of the material. This leads to the absorption of the kinetic energy of the projectile by plastic deformation of the projectile itself as well as the plastic deformation yield of the board material along the entry hole.

### The system for your safety

#### Construction

Knauf FB4 Bullet-Resistant Partitions consist of a metal substructure as a single stud partition, a double layer of special gypsum board Knauf Torro in the partition cavity and double layer cladding made of Knauf Diamant hard gypsum board on both sides.

The stud frame is anchored all around to the flanking constructional components.

The variant with a stud frame made of CW 75 metal studs offers the most streamlined option, whereas the CW 100 variant can provide an additional layer of insulation material to improve the sound insulation properties.





Technical and physical building data

Knauf System 	Fire rating	Cladding per partition side type / thickness  t mm	Profile Cavity  h mm	Partition thickness  D mm	Weight without insulation layer approx. kg/m <sup>2</sup>	Sound insulation $R_{w,R}$ <sup>1)</sup>	
						Knauf CW stud  dB	Insulation layer <sup>2)</sup> min. thickness mm
Bullet-resistant partition							
<b>W161.de Knauf FB4</b> ■ CW 75 		Diamant 2x 12.5	75	125	139	47	–
■ CW 100 						53	20

1)  $R_{w,R}$  = calculation value of the rated sound reduction index of the partitioning component acc. to DIN 4109 without transmission via flanking components  
 2) Insulation layer (mineral wool insulation layer acc. to EN 13162, Baustoffklasse A), length-related flow resistance acc. to EN 29053:  $r \geq 5 \text{ kPa}\cdot\text{s}/\text{m}^2$ , e.g. Knauf Insulation Akustik-Dämmplatte TP 120 A

► Proofs

- Bullet resistant FB4 NS: S 04 0137 05 / B
- Sound insulation: Knauf sound insulation proof L 001-07.05



Fire resistance:  
ABP P-3310/563/07

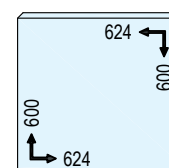
Due to the sheet metal inserts  
**Coordination with building supervisory authority necessary** (Observe the note on page 2).

Max. partition heights

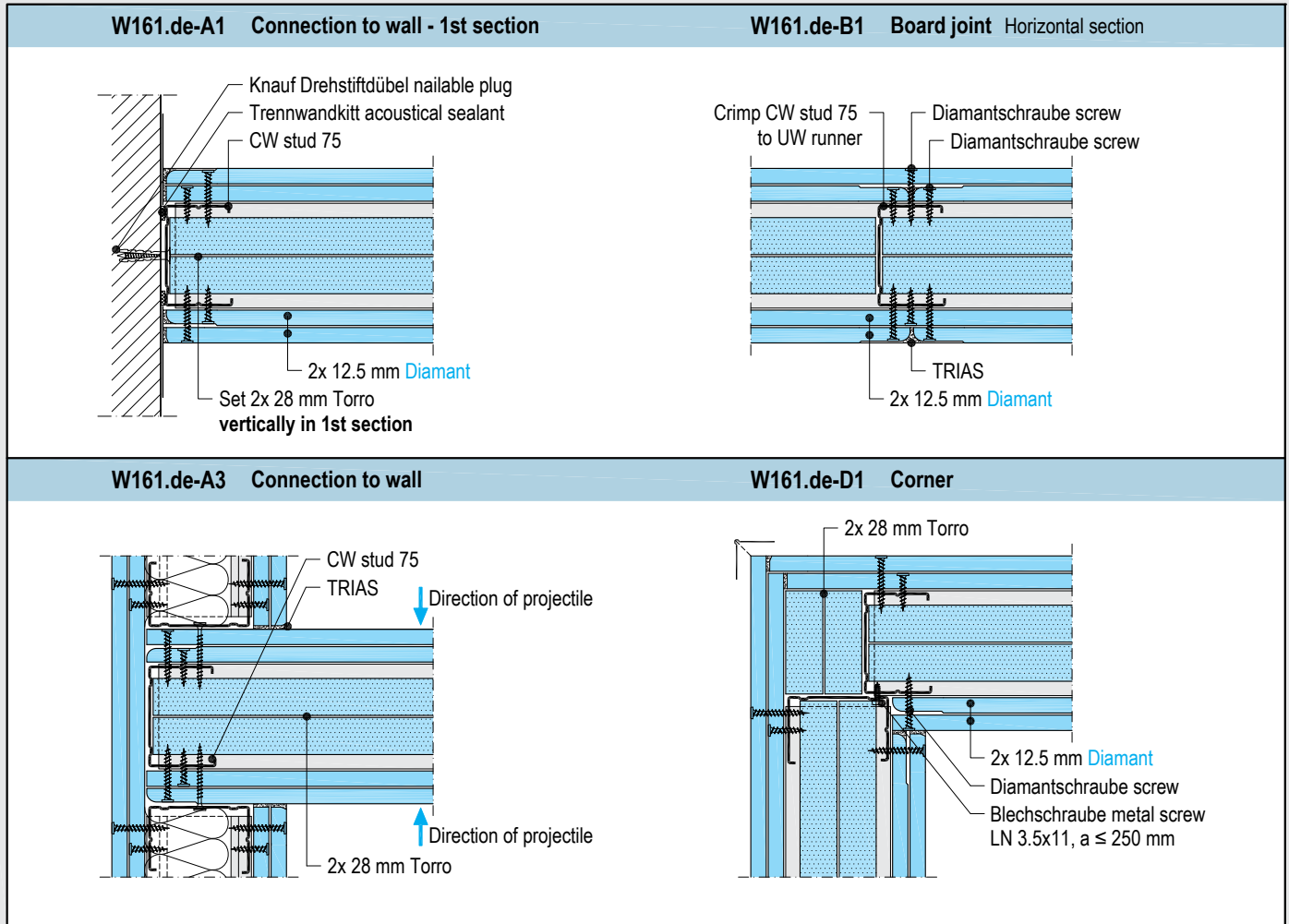
with/without fire resistance

Knauf stud Metal gauge 0.6 mm	Axial stud spacing mm	W161.de Installation zone	
		1 m	2 m
CW 75	625	4	3.50
CW 100	625	5	5

Gypsum fibre boards Knauf Torro



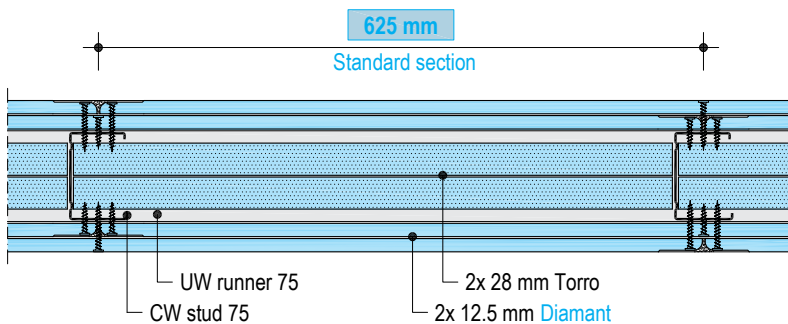
- Size: 624 x 600 mm
- Thickness: 28 mm
- Made of high-strength gypsum fibre material
- Density:  $\geq 1500 \text{ kg}/\text{m}^3$
- Double layer in partition cavity



# W161.de Knauf FB4

Single metal stud framework CW 75 - double-layer cladding with Knauf Diamant, Knauf Torro in partition cavity

Scheme drawing



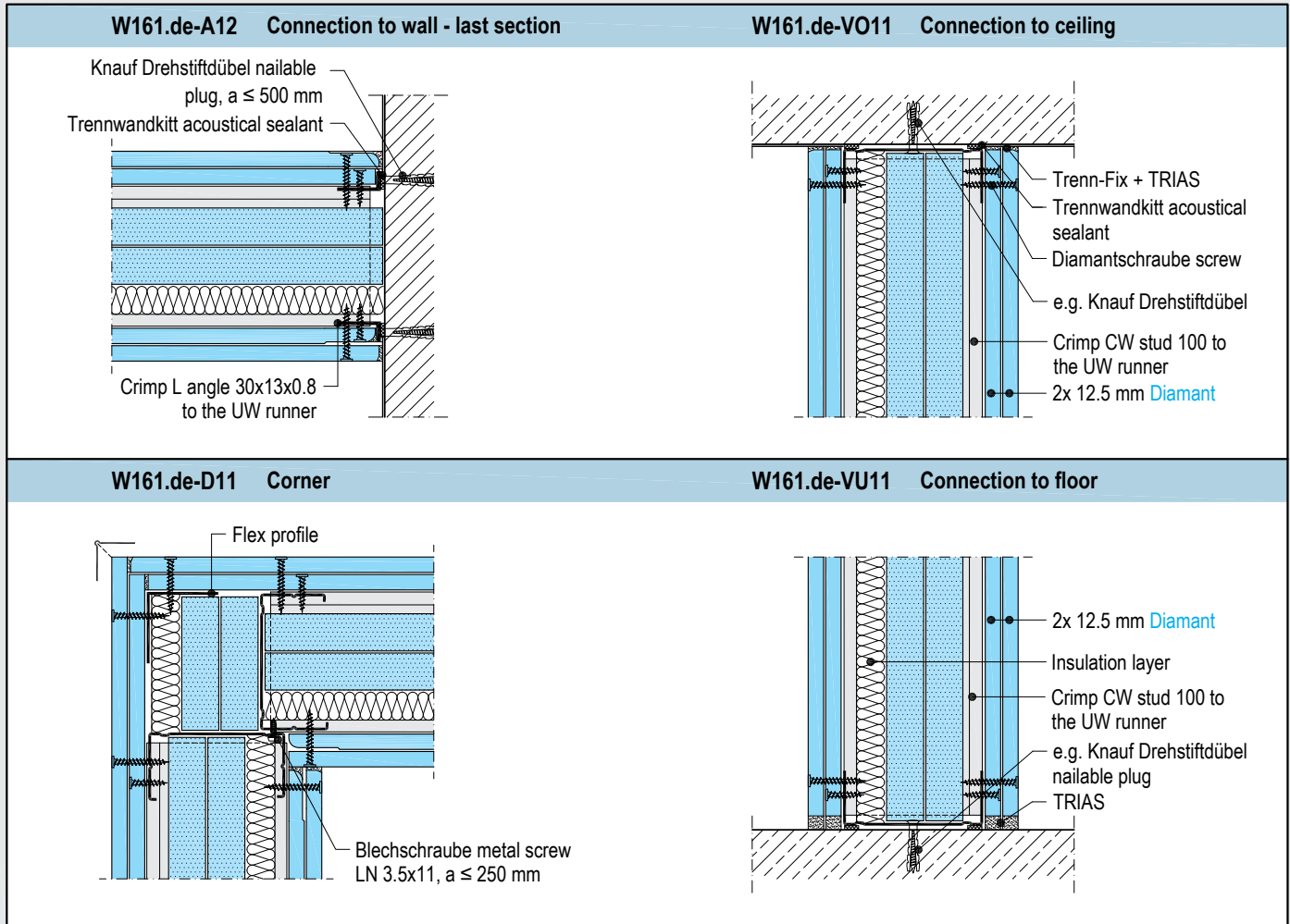
► System characteristics

- Stud spacing standard section 625 mm
- CW stud 75
- 2 layers of 28 mm Torro in partition cavity
- 2 layers of 12.5 mm Diamant boards per side



Details, scale 1:5

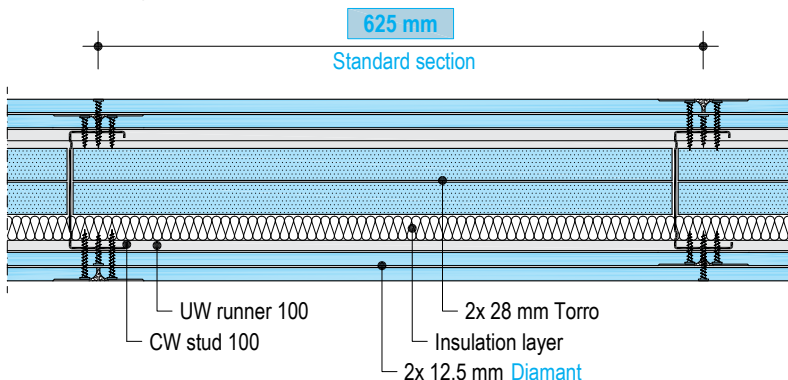
e.g. Stud partition CW 100



# W161.de Knauf FB4

Single metal stud framework CW 100 - double-layer cladding with Knauf Diamant, Knauf Torro in partition cavity

Scheme drawing

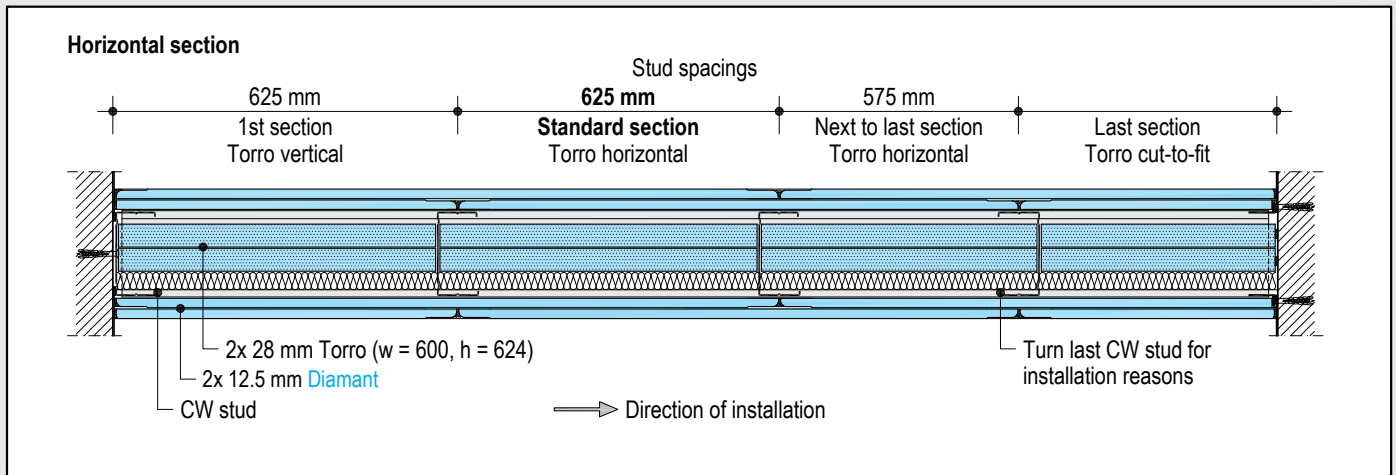


► **System characteristics**

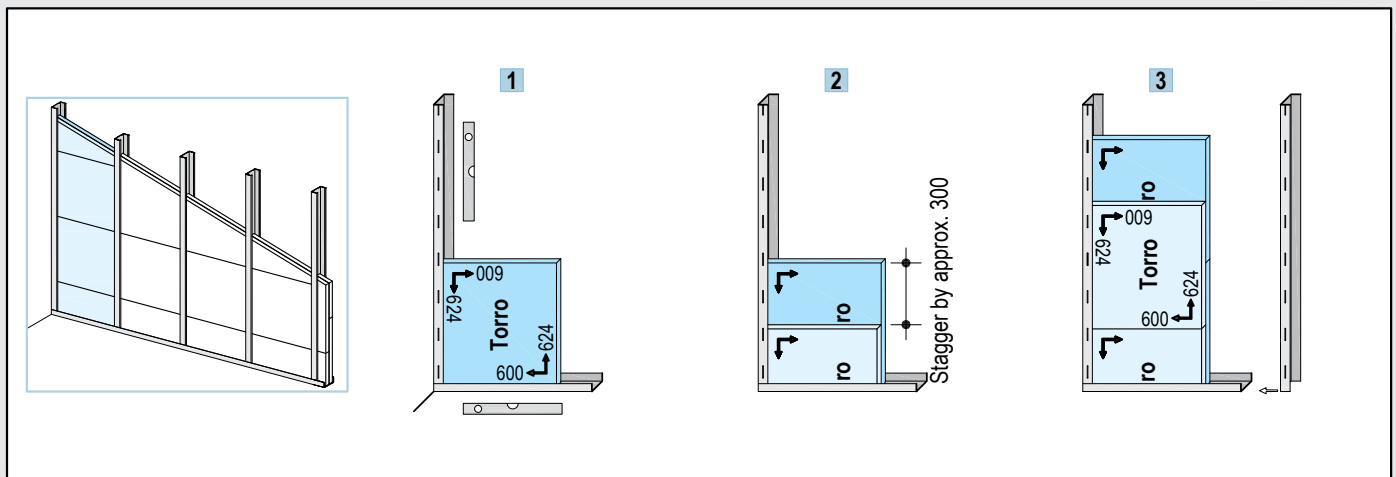
- Stud spacing standard section 625 mm
- CW stud 100
- 2 layers of 28 mm Torro in partition cavity
- 2 layers of 12.5 mm Diamant boards per side
- Insulation layer for improved sound insulation

## System section

Scheme drawings, dimensions in mm



## Installation of 1st section



# W161.de Knauf FB4

## Installation

### Substructure

- Apply Knauf Trennwandkitt acoustical sealant (two strings) to the rear with UW runner connection to floor and ceiling and use suitable fasteners. Align the UW runner precisely horizontally with the floor!

#### Anchor spacing on floor and ceiling

Partition height	Knauf Drehstiftdübel nailable plug	Knauf Deckenna-gel ceiling steel dowels
≤ 3 m	1 m	1 m
> 3 to ≤ 5 m	0.5 m	1 m

- Apply Knauf Trennwandkitt acoustical sealant (2 strings) to the rear of the CW stud and anchor it to the flanking wall where installation has commenced. Spacing of anchors on walls: 1 m max., at least 3 anchors per wall connection. Fasteners for solid flanking constructional

components: Knauf Drehstiftdübel nailable plugs / non solid constructional components: Special anchors suitable for the building materials.

### Knauf Torro in partition cavity

- Apply Trennwandkitt acoustical sealant to the CW stud to fasten the first Knauf Torro to be installed, slide in the board (width 600 mm) vertically and push firmly onto the CW stud. (tap with a rubber mallet if necessary).
- Apply the second layer subsequently that is about 300 mm shorter in height and fix it to the board already applied by 2 strings of Trennwandkitt acoustical sealant (using screw clamps).
- Apply the subsequent Knauf Torro according to the "building block approach" and stagger by approx. 300 mm to one another. Fix both board layers to one another using Trennwandkitt acoustical sealant and press them firmly onto the

CW stud. Cut and install the top Knauf Torro layer to take account of the remaining height. Place the CW stud (apply a string of Trennwandkitt acoustical sealant to the centre lap of the profile channel) with the lap pointing towards the Torro boards in the UW runner and crimp it with the stud crimper. Apply a further string of Trennwandkitt acoustical sealant in the centre of the profile lap on the side of the next installation field.

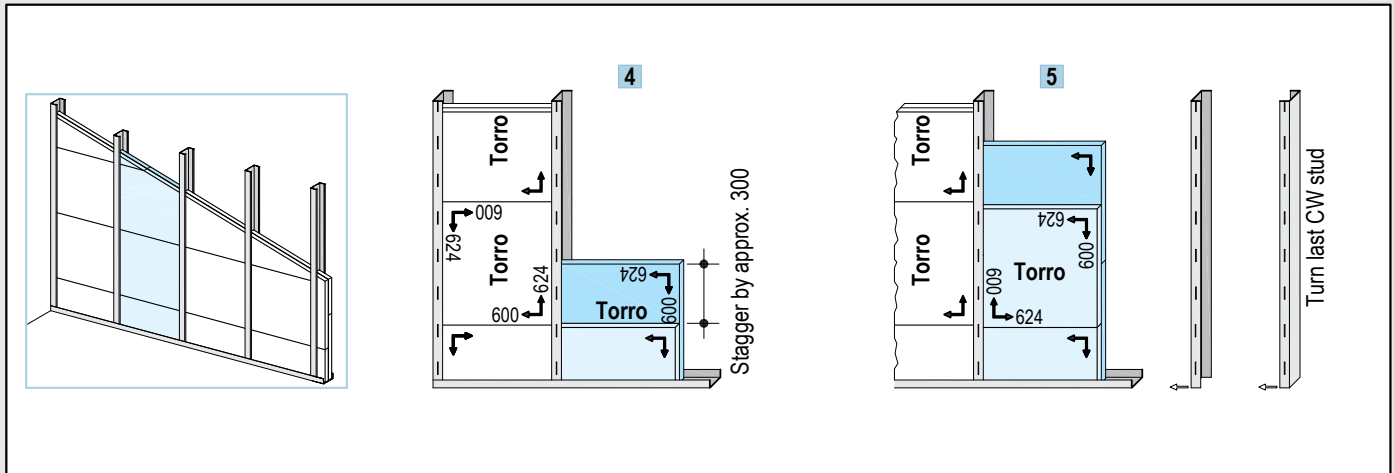
- From the 2nd installation field, set Knauf Torro horizontally (width 624 mm) into the profile, and to ensure grid spacing of 625 mm, continue to observe the joint stagger (approx. 300 mm). Install the stud partition as detailed under 3.
- Continue with the installation sequence until all fields have been applied with 2x 28 mm Knauf Torro.

*Note: Turn the last CW stud to set the opening towards the boards!*

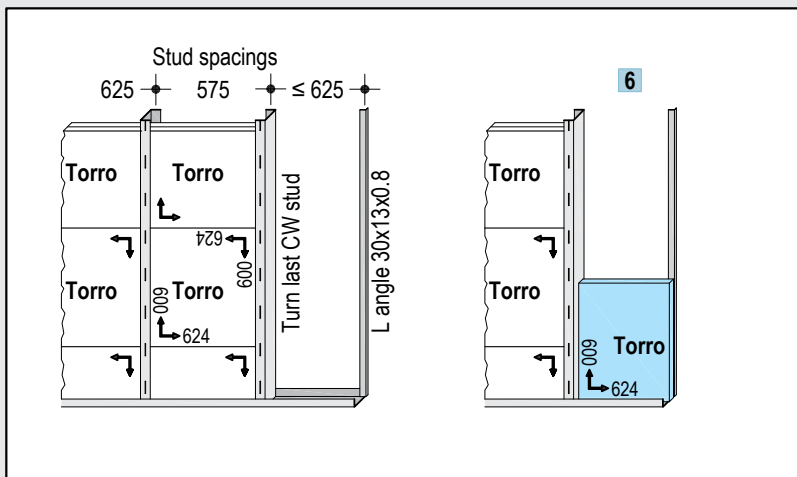


## Standard section installation (2nd section to next to last section)

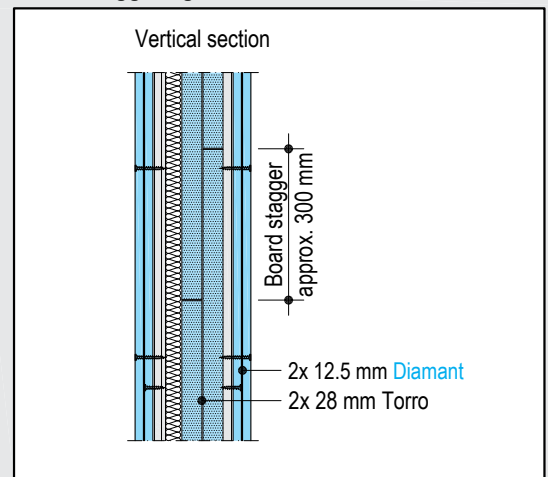
Scheme drawings, dimensions in mm



## Last section installation



## Board staggering



- 6** Fixing of the last partition field is undertaken with a Knauf L angle 30x13x0.8. Set the first bracket on the UW runner (apply Trennwandkitt acoustical sealant beforehand) and crimp it, then fasten the short, perforated leg at spacings of approx. 500 mm to the flanking constructional component. Apply a gypsum board section (approx. 40 x 40 x 12.5 mm) between the angle and Knauf Torro at a spacing of approx. 1 m and glue in with Trennwandkitt acoustical sealant, apply precisely cut Knauf Torro boards, push them into the corresponding angle leg and align and fasten the second angle on the opposite partition side also on the UW runner flanges.

**Note**

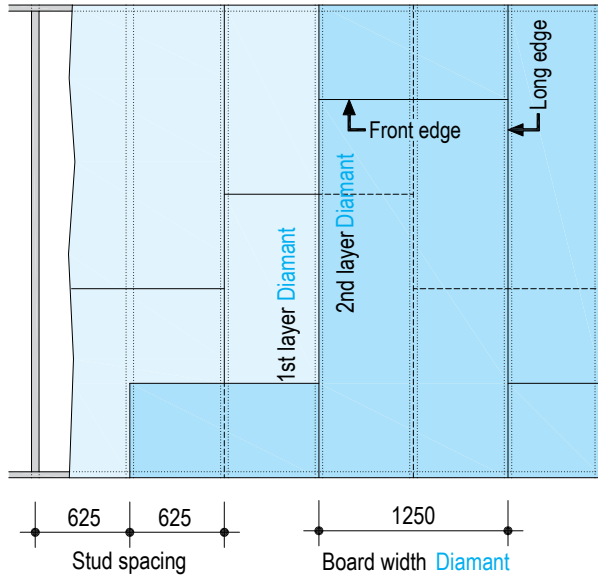
- Apply CW studs and Knauf Torro board-to-stud!
- With CW 100 grid:  
In order to correctly apply the Knauf Torro boards in the partition cavity, insert a gypsum board spacer (approx. 40 x 40 x 12.5 mm) with Trennwandkitt acoustical sealant between the CW stud flange and Knauf Torro at spacings of approx. 1 m and press on the Knauf Torro board on the respective flange side. Jam in a roof batten section (or doubled up gypsum board sections) for support on the opposite flange side between the profile flange and Knauf Torro board (remove when installing the insulation layer or before cladding the partition).
- Door and window openings must be applied after consultation with the manufacturers. The stud frame in the opening area must be



structurally rated for the load applied by Knauf Torro (84 kg/m<sup>2</sup>).

- Knauf Torro boards can be cut to size with an electrical circular saw equipped with a dust extractor. (Saw blade from Knauf Integral Material no. 186326)

**Vertical application Diamant**  
Double layer cladding



- Cladding with vertically arranged boards, preferably with floor-to-ceiling Knauf Diamant boards.
- Long edge joints must be staggered by at least one stud spacing.
- If floor-to-ceiling boards are not used, stagger the front edge joints by at least 400 mm.
- With multi-layer cladding, stagger the front edges between the board layers also.
- Front and long edge joints of cladding on opposing sides must also be staggered to one another.  
For fire protection requirements, the opposing front edge joint must be staggered by at least 500 mm.

# W161.de Knauf FB4

## Cladding, anchoring, jointing

### Fastening of the Knauf boards

- Screw fastening of the cladding in acc. with the table.
- Commence fastening of the Knauf boards in the board centre or on the board corner to avoid buckling.
- Push Knauf boards firmly onto the stud frame when fastening with screws.

### Jointing

- See page 16/17 for jointing and surface filling

### Max. fastener spacings

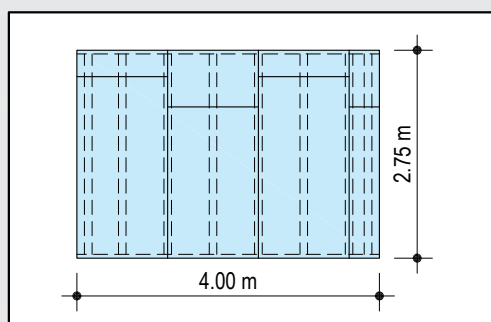
Cladding	Board width 1250 mm	
	1st layer	2nd layer
2x Diamant	750 mm	250 mm

### Fastening of the cladding to the grid with Knauf screws

Cladding	Metal grid (penetration $\geq 10$ mm)	
	Metal gauge $s \leq 0.7$ mm Diamant screws	Metal gauge $0.7 \text{ mm} < s \leq 2.25$ mm Diamant screws
Thickness in mm	<b>XTN</b>	<b>HGP-TB</b>
2 x 12.5	XTN 3.9x23 + 3.9x38 mm	HGP-TB 3.9x35 + 3.9x55 mm

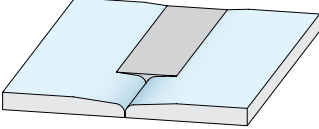
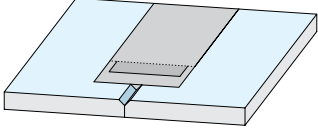
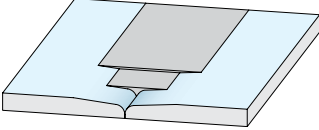
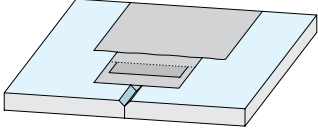
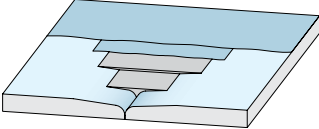
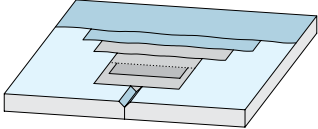
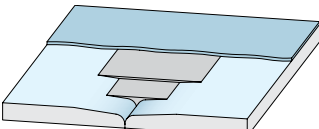
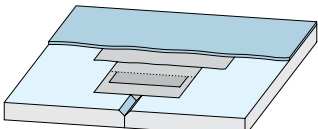
Material requirement per m<sup>2</sup> of partition

Description	Unit	Amount as average value W161.de
<b>stud frame</b>		
alt. Knauf UW runner 75x40x0.6; 4 m long	m	0.7
Knauf UW runner 100x40x0.6; 4 m long		
alt. Knauf CW stud 75x50x0.6	m	1.8
Knauf CW stud 100x50x0.6		
Knauf L angle 30x13x0.8	m	0.5
Torro 28 mm, 624x600 mm	m <sup>2</sup>	2
Knauf Trennwandkitt on the back of perimeter connection profiles	pcs	0.3
acoustical sealant for installation of Torro	pcs	0.7
alt. Knauf Drehstiftdübel nailable plug "K" 6/35	pcs	2.5
alt. Knauf Drehstiftdübel nailable plug "K" 6/50 (with plastered connection surfaces)		
alt. Knauf Deckennagel ceiling steel dowels		
Insulation layer 20 mm thick; e.g. Knauf Insulation Akustik-Dämmplatte TP 120 A	m <sup>2</sup>	as req.
<b>Cladding</b>		
Diamant 12.5 mm	m <sup>2</sup>	4
<b>Screw fastening</b>		
1st layer	pcs	14
2nd layer		30
<b>Joint filling</b>		
or TRIAS; with hand filling	kg	0.8
Uniflott; with hand filling		
Fugendeckstreifen Kurt joint tape (for front edges)	m	0.8
Trenn-Fix; 65 mm wide, self-adhesive	m	1.8
Knauf Kantenschutzprofil edge trim 23/13; 2.75 m long	m	as req.
Knauf Eckschutzschiene corner trim 31/31; 2.6/3 m long		
Alux-Kantenschutz edge trims; 50 mm wide		
<b>Accessories for corner details</b>		
Knauf Flexibles Eckenprofil flex profile	m	as req.
Knauf Blechschraube LN metal screw	pcs	as req.
Torro strips 2x 75 mm alt. 2x 100 mm wide	pcs	as req.



- The quantities relate to a partition area of:  
H = 2.75 m; L = 4.00 m; A = 11.00 m<sup>2</sup>
- Without allowance for loss and waste
- Details without specific requirements on the building physics
- as req. = as required

## Quality levels

<b>Half-rounded tapered long edge / Half-rounded long edge</b> Uniflott/Safeboard-Spachtel filler/Uniflott imprägniert/TRIAS	<b>Sharp cut edge and bevelled cut edge (front and cut edges) / mixed joints and jointing</b> All Knauf filling compounds
<b>Q1* Technically required filling - for surfaces without optical requirements</b>	
Uniflott/Safeboard-Spachtel filler / Uniflott imprägniert/TRIAS 	Uniflott/Safeboard-Spachtel filler / Uniflott imprägniert/TRIAS <b>+ Fugendeckstreifen Kurt ** joint tape</b> 
<b>Q2* For surfaces with standard optical finishing requirements</b>	
Uniflott/Safeboard-Spachtel filler / Uniflott imprägniert/TRIAS 	Uniflott/Safeboard-Spachtel filler / Uniflott imprägniert/TRIAS <b>+ Fugendeckstreifen Kurt ** joint tape</b> 
<b>Q3* For surfaces with enhanced optical finishing requirements</b>	
Uniflott/Safeboard-Spachtel filler / Uniflott imprägniert/TRIAS <b>Readygips</b> 	Uniflott/Safeboard-Spachtel filler / Uniflott imprägniert/TRIAS <b>+ Fugendeckstreifen Kurt ** joint tape Readygips</b> 
<b>Q4* For surfaces with premium optical finishing requirements</b>	
Uniflott/Safeboard-Spachtel filler / Uniflott imprägniert/TRIAS <b>Readygips or Putzgrund and Multi-Finish alt. Multi-Finish M</b> 	Uniflott/Safeboard-Spachtel filler / Uniflott imprägniert/TRIAS <b>+ Fugendeckstreifen Kurt ** joint tape Readygips or Putzgrund and Multi-Finish alt. Multi-Finish M</b> 

# Jointing

## Of gypsum boards

### Surface quality

- Fill and finish the gypsum boards for the specified quality standard Q1 to Q4.

### Filling of gypsum board joints

- For multi-layer cladding, fill the lower layers with filler to quality level Q1, fill the joints of the visible layer as required to Q1 - Q4.
- Fill all visible screw heads.
- Lightly sand visible surface after drying of filling compound, if necessary.

### Filling of connection joints

- Fully fill joints of wall connections to floor with filler as well (all board layers) with filling compound (use Safeboard-Spachtel filler for Safeboard layers).
- Apply Trenn-Fix or Fugendeckstreifen Kurt joint tape when filling joints to adjacent drywall

constructions, depending on the conditions and requirements for crack safety.

- Apply Trenn-Fix when filling joints to adjacent solid construction components.
- Observe Code of Practice no. 3 "Gipsplattenkonstruktionen - Fugen und Anschlüsse" of the BVG (IGG).

### Filling compounds

- Safeboard-Spachtel filler: Hand filling Safeboard X-ray shielding board without joint tape
- Uniflott: Hand filling without joint tape strips in the long joint edges

- TRIAS: Hand filling without board tape in the long joint edges; easy blending, very smooth application and easy to sand, with high strength and suitable for areas of high humidity, reduced absorption for surfaces with uniform appearance; the ideal filler particularly for Diamant board systems
- Fugenfüller Leicht: Hand filling with Knauf Fugendeckstreifen Kurt joint tape

Finishing filler to achieve the desired surface quality:

- Q2, hand application: Finish-Pastös, Knauf Fill&Finish Light
- Q3/Q4, hand application: Readygips, Knauf SuperFinish
- Q3/Q4, machine application: Readygips, Knauf ProSpray products

\* Quality levels acc. to Code of Practice no. 2 "Verspachtelung von Gipsplatten – Oberflächengüten" of the BVG, Industriegruppe Gipsplatten e.V.

\*\* Recommendation:

Always apply Knauf Fugendeckstreifen Kurt joint tape when filling front or cut edge joints as well as mixed joints (e.g. half-rounded tapered long edge + cut edge) of visible cladding layers.





1st stage



2nd stage



Finish



#### ► Good to know

Filling the joints of covered cladding layers with multi-layer cladding is necessary to guarantee X-Ray shielding, technical fire protection and sound insulation properties as well as the structural properties!

#### Application

Uniflott/Uniflott imprägniert impregnated/TRIAS

- At least 2 steps, depending on the required surface quality. Fill the joints, remove the excess material (strings) after approx. 50 minutes. Create a smooth and levelled transition to the board surface in the second step with a trowel or wide spatula.

Fugenfüller Leicht

- Fill joints, apply Knauf Fugendeckstreifen Kurt joint tape and embed with the trowel. Second work step after drying as with Uniflott.

Do not use hardening material. Remove slight bumps directly after setting. Clean the tools with water after use.

Sand with Knauf Hand Rasp / Grinder with Shaft and Rasp Mesh after drying.

#### Application temperature/climate

- Filling and covering of joints should only take place when no more longitudinal changes can be expected, i.e. expansion or contraction due to humidity or temperature changes.
- Joints should be filled at a minimum room temperature of about +10°C.
- In case of mastic asphalt screed, cementitious screed and self-levelling screed, fill in board joints after screed has been applied.
- Observe Code of Practice no. 1 "Baustellenbedingungen" of the BVG (IGG).



# Coatings and linings

## On gypsum boards

### Coatings and linings

#### Pretreatment

The entire surface should be dust-free before applying a coating.

Before further coatings or linings (wallpaper) are applied, always pretreat and prime gypsum board surfaces, in accordance with Code of Practice no. 6 of the BVG (IGG) "Vorbehandlung von Trockenbauf lächen aus Gipsplatten zur weitergehenden Oberflächenbeschichtung bzw. -bekleidung" (German only).

Ensure that the primer is compatible with the coating / paint / lining.

In order to settle the different absorption properties of the filled areas and the board liner, primers such as Knauf Tiefengrund/ Spezialgrund/ Putzgrund are suitable.

Where a wallpaper lining is used, a primer that facilitates easier removal of wallpaper for redecoration is recommended.

A sealing primer of Knauf Flächendicht is required for covering splash water areas with tiles.

### Suitable coatings and linings

The following coatings/linings can be applied to Knauf boards:

#### ■ Wallpapers

Paper, fleece, textile and synthetic wallpapers.

Use only adhesives made of methyl cellulose according to Code of Practice no. 16 "Technische Richtlinien für Tapezier- und Klebearbeiten" released by the Bundesausschuss Farbe und Sachwertschutz (German only).

#### ■ Ceramic tiles on partitions

Minimum cladding thickness 18 mm (Diamant: 15 mm) for stud spacings of 625 mm, for narrower cladding thickness (min. 12.5 mm) reduce the stud spacing to max. 417 mm.



#### ■ Plasters:

- Top coats (e.g. Knauf Noblo, Diamant Spray Plaster, Rotkalk Filz) or full surface plaster (e.g. Knauf Readygips, MultiFinish). Application of plaster layers only in conjunction with Knauf Fugedeckstreifen Kurt joint tape.

#### ■ Paint coats:

- Dispersion paints (e.g. Knauf Intol E.L.F., Malerweiss E.L.F.), multi-coloured (rainbow) emulsion, silicate-based emulsion paints with a suitable primer.



#### Unsuitable are:

■ Alkaline coats such as lime, water glass paints and silicate-based paints.

#### Notes:

After wallpapering or after application of plasters, quick drying must be ensured through adequate airing.

Gypsum board surfaces that have constantly been exposed to light without any protection can cause yellowing after coating. Therefore, a trial coat is recommended that will extend across several board widths including all joints. Yellowing can, however, be successfully avoided only by using a special primer, such as Knauf Aton Sperrgrund for top coats, Knauf Atonol for paint coats.

Fire protection: Other decorative coatings or coatings and vapour barriers up to about 0.5 mm thickness as well as claddings (with the exception of sheet metal), do not have any influence on the technical fire resistance classification of Knauf systems.

#### ► Good to know

Knauf interior paints consist of environmentally friendly constituents and bear the E.L.F. quality seal, and are certified by TÜV Rheinland.

- Low emission
- Solvent-free
- Free of fogging active substances
- Odourless



► See also the Plaster and Façade system Product Data Sheets



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**Knauf AMF**  
Ceiling Systems

**Knauf AQUAPANEL**  
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