

**Vidiwall
and Vidifloor**

knauf

The major advantage of the Knauf trademark consists in the creation of products and systems that can be combined in optimal configurations.

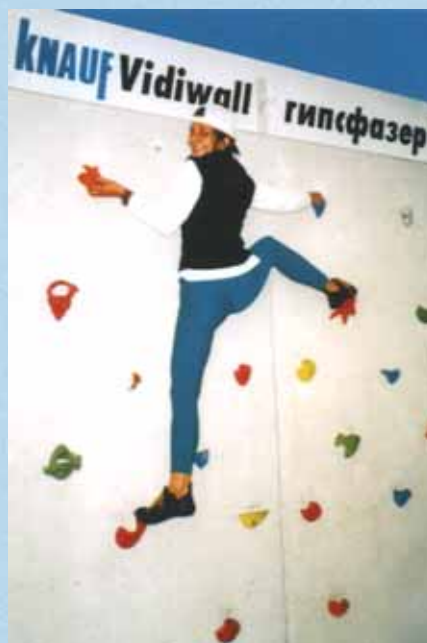
Vidiwall and Vidifloor are the youngest children in the family of Knauf dry construction products. They are manufactured according to the gypsum fibre board technology and represent a worthy supplement, oriented towards especially exigent customers, to the basic range of Knauf products, the high-quality performance of which has been proved multiple times.

Gypsum in combination with reinforcing cellulose fibres. They are combined in a perfect match and feature the well-known high quality of Knauf products. As a result of pressing, it is obtained a very harder and more stable impregnated gypsum board for dry construction, having extremely good physico-mechanical parameters: Knauf Vidiwall for ceilings, internal and external walls, and Knauf Vidifloor for floors. These boards ensure simultaneously higher strength, fire protection, moisture resistance, and sound insulation.

The innovative developments of the Knauf company - for instance, the VT edge permitting extremely easy work operations without any risk of causing defects, or the possibility of using Knauf Vidiwall as a strengthening board for walls with wooden bearing sub-structure - guarantee their good acceptance from the part of the customers. This is another evidence for the progressive character of the dry construction systems featuring the permanent high quality of Knauf.

ADVANTAGES

- Robustness and durability
- Impregnation for moisture resistance
- High degree of fire resistance
- Ecological properties
- Very good sound insulation
- Rapid and easy installation
- Possibilities for applying various kinds of coverings
- High-quality product of Knauf, manufactured in Bulgaria.





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Knauf gypsum fibre boards are made of burnt gypsum and special cellulose fibres produced of selected types of old paper.

Field of application

Knauf gypsum fibre boards can be used in all areas of the dry construction, including in kitchens and bathrooms in dwellings as well as in any other rooms with similar functions. They are fixed to wooden or metal sub-structures.

Because of their special composition and high strength Knauf gypsum fibre boards are mainly used on wooden sub-structures for lining walls and ceilings and for making dry floors.

The use of gypsum fibre boards with the purpose of structural strengthening in building with panels on a wooden sub-structure is regulated in details by the Building Application Permit Z-9.1-339, issued by the Institute of Building Technologies in Berlin, Germany.

Storage

Gypsum fibre boards should be stored indoors on a dry and even floor, only in horizontal position. They should be protected against moisture.

Technical data for Vidiwall

Density	>1050 kg/m³
Tension strength in bending	> 5 N/mm²
Compression strength	25 N/mm²
Brinell hardness	ca. 30 N/mm²
Penetration hardness	ca. 750 N
Vapour diffusion resistance factor	μ ~ 18
Thermal conductivity coefficient	λ _R = 0,28 W/mK
Combustibility class according to DIN 4102	A2 - noncombustible
Surface - ground and impregnated on both sides	



Biological Safety Certificate for Vidiwall, issued by the Institute of Building Biology in Rosenheim, Germany, in May 2002.

Gypsum fibre boards for a wall

Details about edge shaping		Thickness (mm)	Format (mm)
Vidiwall with SK-edge		10,0/12,5	1000 x 1500/1250
		10,0/12,5/15,0	1250 x 2000/2500/2600/2750/2800/3000
Vidiwall with VT-edge	Four-sided VT-edge	10,0/12,5	1000 x 1500/1250
		10,0/12,5/15,0	1250 x 2000
	Two-sided VT (longitudinal edge)	10,0/12,5/15,0	1250 x 2000/2500/2600
	and two-sided SK (butt edge)		1250 x 2750/2800/3000
Special widths are possible: 1245 mm (open joint) and 1249 mm (glued joint). Special lengths up to 3200 mm for lining are possible depending on the height of the room.			

Gypsum fibre board for a wall

Vidiwall



Cutting

Gypsum fibre boards are notched with a modeling knife and broken on the stand edge. The broken edge can be smoothed with a profile plane and dusted (required only in applying with glued joint).

Neat edges may be also obtained by using an electric saw (air aspiration must be applied).

Fasteners

Fixing the Vidiwall boards requires the use of appropriate means depending on the basic bearing structure. Boards are installed by means of screws, nails or clamps.

Fixing on metal sub-structures is performed by using special screws for gypsum fibre boards. For single lining: 3.9 30 mm, and for double lining: 3.9 45 mm.

Fixing on wooden sub-structures is performed by means of nails or clamps (DIN 1052, and respectively ONORM DIN 18 182-3, D type), which are galvanized or have some other type of anti-corrosion coating. It is possible to use clamps for fixing a board to another board in double-layer lining.

Vidiwall: gypsum fibre board for a wall

- suitable for universal application;
- high strength;
- strengthening action for wooden structures;
- suitable for wet rooms;
- easy working;
- certified as regards the biological safety.

Vidiwall boards are produced with differently shaped edges. Various techniques of joint treatment are applied in accordance with the different edge shapes:

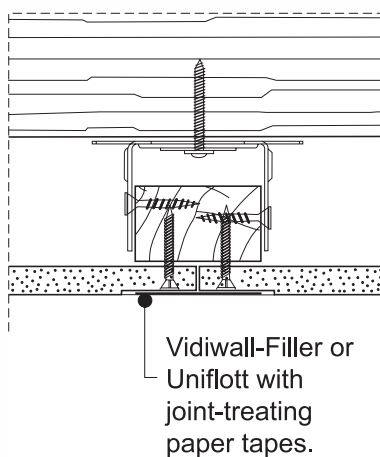
- Joint troweling cannot begin before being ascertained that there is not any risk of great changes in humidity and temperature, which could cause corresponding linear expansions of the gypsum fibre boards.
- Air humidity should be between 40 % and 75 %, the residual humidity of the boards should be about 1.3 %.
- When troweling, the air temperature in the room should not fall below ca. 10 oC.
- Joint-treating paper tapes should be used in the critical areas in order to ensure optimal joint treatment.

VT edge

Board width: 1250 mm. Manual troweling with Vidiwall Filler or Uniflott and paper tapes for joint treatment. The boards are placed in contact with each other, the recess is filled up with Vidiwall Filler or Uniflott and covered with a joint-treating paper tape. In case of multiple-layer linings the lower joints are only filled up, and those of the top layer are filled up and troweled. Small surface irregularities are eliminated by grinding immediately after hardening. The points of fixing are also troweled.

SK edge - lower (invisible) layers of multiple-layer linings

Board width: 1250 mm. Under a lower lining layer or under an installation plane the boards are installed closely to each other. It is only the joints of the top layer that remain open and are filled up with Vidiwall Filler or Uniflott, whereupon paper tapes are embedded as well.



Joint treatment technique for the VT edge.



The VT edge is filled up with Vidiwall-Filler or Uniflott.



Joint-treating paper tape is applied.



Troweling

Rational technique of joint treatment



The joint-treating paper tape is perfectly embedded in the VT edge.



Fine troweling with Knauf Readyfix.



SK edge - open joint

Board width: 1245 mm. It is possible to perform manual troweling with Knauf Uniflott with or without paper tape for joint treatment. The boards are installed with a joint (its width being 5 to 7 mm), and the joint is filled up with Knauf Uniflott. Excess material should be removed in about 40 minutes. When using a paper tape, the joint-filling material is also applied outside the joint in such a way that the tape will be entirely embedded on the filling compound.

SK edge - glued joint

Board width: 1249 mm. Knauf PU construction adhesive is applied all along the edge of the already installed Vidiwall board. The next board is placed on the bearing substructure and pressed to the adhesive (joint width < 1 mm), whereupon the board is fixed with clamps or screws. The adhesive that has come out should be removed with the trowel (within an hour).

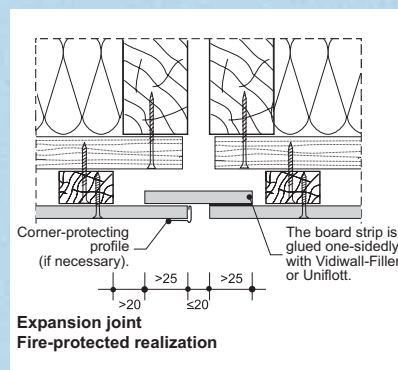
When installing Vidiwall boards directly on the base (e. g. an OSB board), no board-to-base bonding should occur. The technical information K811 shall be observed.

Fine troweling / finishing

Fine troweling with Knauf Readyfix or Finish-Paste is recommended when there are high requirements regarding the surface.

Expansion joints

For large surfaces it is necessary to form expansion joints at every 8 m.



Wall linings and partition walls consist of a metal or wooden framing structure and Vidiwall boards mounted single-sided (for wall lining) or double-sided (for partition wall). The basic structure of the partition wall is connected along its periphery to the adjacent building elements and represents a bearing structure for the boards. In the hollow space it is possible to build in insulation materials for additional sound and thermal insulation as well as all necessary installations (electric cables, water supply and sewerage, etc.).

The extension joints of the rough construction should be repeated in the structure of the wall linings and partition walls.

Framing sub-structure for a partition wall

- Knauf UW profiles for connecting to the adjacent building elements with sealing tape on the back side, and if there are requirements concerning the sound insulation - with mastic for partition walls (2 spreadings).
- The profiles are fixed by means of Knauf cross-bar dowels K 6/35 to the adjacent building elements. The distance between the points of fixing should be 100 cm, with at least 3 points of fixing on each wall.
- Knauf CW profiles are placed in the UW profiles (with clearance of 1 cm) at a maximum distance of 625 mm between axes along the wall length and adjusted in vertical position.
- For ceramic coverings the distance between studs is reduced to maximum 42 cm.
- The wooden bearing structure should meet the requirements for wooden construction material and be well dried up (average humidity < 15 %).

Knauf Vidiwall partition walls with metal sub-structure

Technical data						
Size in mm			Sound insulation		Fire resistance	
Wall thickness	Profile width	Lining	Rw dB	Mineral wool ¹⁾ , Mm	Insulation layer	Fire resistance class ²⁾
W361 Vidiwall partition wall with single metal sub-structure and single-layer lining						
70	50	10	-	-	S	F 30 (EI 30)
75		12.5	49	50	-	F 30 (EI 30)
80		15	-	-	S	F 60 (EI 60)
95		10	-	-	S	F 30 (EI 30)
100	75	12.5	52	75	-	F 30 (EI 30)
105		15	-	-	S	F 60 (EI 60)
120		10	-	-	S	F 30 (EI 30)
125	100	12.5	53	100	-	F 30 (EI 30)
130		15	-	-	S	F 60 (EI 60)
W362 Vidiwall partition wall with single metal sub-structure and two-layer lining						
90	50	2x10	-	-	-	F 60 (EI 60)
100	75	2x12.5	61	50	S	F 90 (EI 90)
115		2x10	-	-	-	F 60 (EI 60)
125		2x12.5	61	75	S	F 90 (EI 90)
140		2x10	-	-	-	F 60 (EI 60)
150	100	2x12.5	62	100	S	F 90 (EI 90)
W363 Vidiwall partition wall with single metal sub-structure and three-layer lining						
110	50	3x10	-	-	-	F 90 (EI 90)
120		2x12.5 + 10	-	-	S	F 120 (DIN) (EI 120)
125		3x12.5	-	-	-	-
135		3x10	-	-	-	F 90 (EI 90)
145	75	2x12.5 + 10	-	-	S	F 120 (DIN) (EI 120)
150		3x12.5	-	-	-	-
160		3x10	-	-	-	F 90 (EI 90)
170	100	2x12.5 + 10	-	-	S	F 120 (DIN) (EI 120)
175		3x12.5	-	-	-	-

S Insulation layer of mineral fibres in accordance with ONORM B 6035 (generic name: mineral wool), building material class A, melting point 1000 oC according to DIN 4102, Part 17, at least 40 mm thick, 30 kg/m3.

1) Insulation layer of mineral wool in rolls in accordance with ONORM B 6035 (generic name: felt sealant material for internal walls), building material class A, rated thickness 50 mm, 75 mm, or 100 mm.

2) The designation (EI ..) corresponds to the classification in accordance with the fundamental document TC 2/021 (Essential Requirements - Safety in Case of Fire).

Wall linings and partition walls

Internal walls



Installing Knauf acoustic bracket



Installing the metal structure for Knauf wall lining



Applying Knauf mastic on the UW profile (when sound insulation is required)



Metal framing structure for Knauf partition (stud) wall

Framing structure of a wall lining

- A sealing tape is placed on the back side of Knauf UD profiles for fastening to adjacent building elements, and if there are requirements concerning the sound insulation, mastic for internal walls (2 strips) is applied as well.
- The profiles are fixed to the floor and ceiling with Knauf cross-bar dowels K 6/35. The distance between the points of fixing is 100 cm.
- To ensure support for Knauf CD profiles, Knauf acoustic brackets or direct hangers (with a sealing tape glued to their back side) are mounted in the middle of the wall (at maximum distance of 1.5 m) by means of cross-bar dowels.
- Knauf CD profiles 60/27 (with clearance of 1 cm) are placed vertically in the UD profiles at maximum distance of 625 mm between the axes and fixed with screws to the acoustic brackets.

Lining

Lining of the already installed framing structure is performed with vertically placed Vidiwall boards. In case of VT edges the boards are installed closely to each other. The end joints should be staggered with at least 400 mm.

The boards are fixed by means of Vidiwall special screws at maximum distance of 250 mm.

Cantilever loads			
	Minimal distance between fixing elements	Vidiwall board thickness	
		10 mm	12.5 mm
Picture hook, 1 nail		15 kg	17 kg
Picture hook, 2 nails		25 kg	27 kg
Picture hook, 3 nails		35 kg	37 kg
Knauf LG25 screw 5 mm		20 kg	30 kg
Dowel for hollow space			
Metal 5/16	75 mm		40 kg
Metal 6/16	75 mm		50 kg
Metal 5/32	75 mm		55 kg
Metal 6/32	300 mm		60 kg

Attic linings with Vidiwall gypsum fibre boards are installed by means of a wooden structure of installation laths or a metal structure of installation profiles on beams, rafters, headers or barks.

For lengths greater than 8 m and considerably constricted attic area (for instance, due to protruding walls) it is necessary to provide for expansion joints. Expansion joints in the rough construction should be repeated in the lining structure as well.

Linings of Vidiwall gypsum fibre boards can perform the function of an airtight layer. Their connection to building elements that are in contact with the outside air should be realized in an airtight manner.

Sub-structure

Fixing the board-bearing structure to beams and rafters is carried out by means of:

- Knauf anchor hanger 170 mm, or respectively 270 mm (depending on the insulation thickness), installed with 2 Knauf flat-head screws FN 5.1 35 mm for suspending Knauf CD profiles 60/27, or
- Knauf direct hanger (compensating irregularities up to 100 mm), installed with Knauf flat-head screws FN 5.1 35 mm. Fixing Knauf CD profiles 60/27 is carried out with 2 Knauf screws TN 3.5x35 mm.

Pre-determined distances (see the tables) should be applied in fastening the structure, depending on board thickness and type of structure.

Installing Vidiwall profiles is realized transversally to the installation laths or profiles, respectively. End joints are staggered with one distance between profiles (laths). In installing the boards are pressed strongly to the bearing structure.

Lining

Distances between Vidiwall screws for fixing the lining to ceilings and roof slopes are maximum 150 mm for Vidiwall gypsum fibre boards of thickness 10 mm and 200 mm for thickness 12.5 mm, whereas they are maximum 250 mm for vertical surfaces. The length of Vidiwall screws for single lining is 30 mm.

Technique of joint treatment

Depending on the edge shape of used Vidiwall boards it is applied a respective technique of joint treatment. For structural reasons the joints in the transition zones from ceiling to roof slope and from roof slope to wall are in principle treated with paper tapes and Uniflott. The transitions to other building elements or to corners are shaped with separating tapes.



Fastening a bearing structure with Knauf anchor hanger 170 mm, or respectively 270 mm.



Suspending Knauf CD profiles to the anchor hangers.

Lining of attics

Unutilized spaces?



Correct installation of an attic lining with Vidiwall gypsum fibre boards with VT edge.

Distance between axes for the installation laths or profiles in mm		
	Vidiwall board	
	10 mm	12.5 mm
Wooden bearing structure		
Transversal installation on a beam / rafter	375	500
Longitudinal installation on a beam / rafter	333	333
Wall	500	500
Metal bearing structure		
Transversal installation on a beam / rafter	375	500
Longitudinal installation on a beam / rafter	333	333
Wall	500	500

Distance between beams and respectively between hangers / screws in mm		
	Vidiwall board	
	10 mm	12.5 mm
Wooden bearing structure (width x height in mm)		
Laths, 60 x 40	1000	850
Laths, 50 x 30	850	750
Laths, 48 x 24	700	600
Metal bearing structure		
CD profile 60/27	1000	850

The origin of assembling buildings is hidden somewhere in the remote past when in countries rich in wooden material, as those in North and Central Europe, in the Far East and later in North America, housing and public construction was performed exclusively on the basis of wooden structures, some of which, having survived for many centuries, are preserved even to our time. Nowadays, when there are also many other technologies, the humanity has discovered the so called "wooden houses" once again. Why?

- The technology of the modern assembling construction which has already been realized on industrial basis, i. e. the panels are pre-fabricated in factory conditions, is the most efficient one in comparison with all other technologies as the wet processes and manual labour are reduced to a minimum. In circumstances, where time is measured in money, any other type of construction would be simply too expensive.
- The wooden structure that has already acquired improved load-bearing capacity and durability is combined with new insulating and other building materials, for example gypsum fibre boards and various types of wools, which means that the comfort of living in a kit house is incomparably better than that of living in a conventional home, not to mention the far smaller thicknesses of partition elements which leads correspondingly to
- The lower price of this construction approach for the final customer and

- The better seismic resistance due to the "flexibility" of the basic bearing structure made of wooden material.

All this has led to mass expansion of the assembling construction in the developed countries. An important issue from as early as the stage of preparing the projects of such buildings is the structural strengthening of panels.

So far this has been provided by the wooden materials, but nowadays Knauf Vidiwall gypsum fibre boards may also be used for that purpose. The cross-ties, diagonally installed wooden details or steel bracings for securing against wind loads have already become obsolete.

Strengthening with Knauf Vidiwall

The argument for the application of Knauf Vidiwall gypsum fibre boards as single-sided or two-sided lining of walls with wooden structure is obvious from the Building Application Permit.

Field of application

Walls of wooden structure with bearing and/or strengthening lining of Knauf Vidiwall gypsum fibre boards can find application in wooden assembled houses meeting the requirements of DIN 1052-1 to 3:1988-04 - Construction Installations of Wooden Material. They could be used at places where it is permitted to apply wooden boards of Class 20 in accordance with DIN 68800-2:1996-05 - Protection of the Wooden Material: Measures in High-Rise Construction.

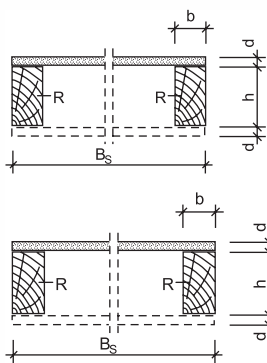
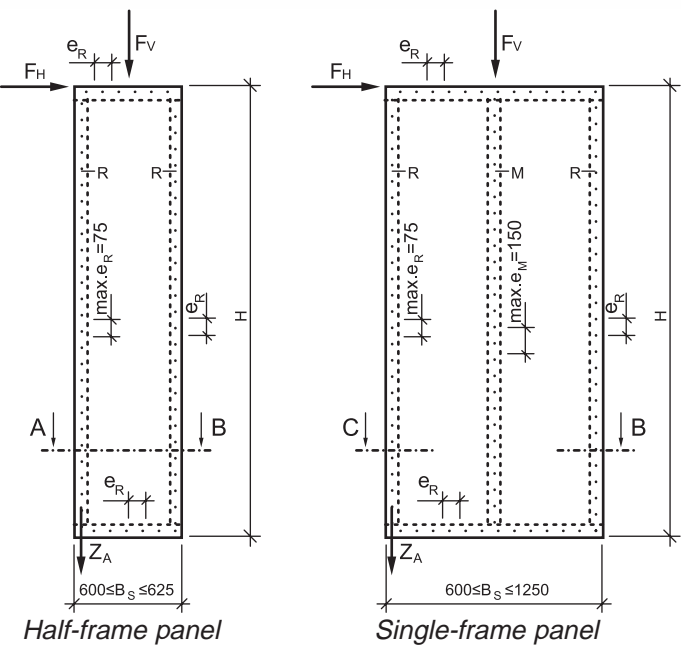


Structural strengthening of wall slabs

Wooden structures

Strengthening wall panels (slabs)

Confirmation for the suitability of Knauf Vidiwall boards to perform the role of strengthening lining for structural slabs can be found in the Building Application Permit being issued in accordance with DIN 1052/1-3.



Section A-B of a half-frame panel

Section C-D of a single-frame panel

Ribs
Minimal width = 40 mm, height = 80 mm
Cross-section > 40 cm²

Calculated values of the admissible horizontal load F_H adm. for a half-frame panel with width from 0.60 m to 0.625 m and a single-frame panel with width from 1.20 m to 1.25 m depending on the panel height and thickness d of the gypsum fibre board lining:

Table 1						
Lining	Width in m	$F_{H \text{ adm.}}$ in kN for				α
		$d = 10 \text{ mm}$		$d > 10 \text{ mm}$		
		Panel heights in m				
		2.60	3.00	2.60	3.00	
Two-sided1	0.60 - 0.625	2.9	-	3.3	-	1.0
	1.20 - 1.25	6.3	5.0	7.5	6.3	0.7
Single-sided	1.20 - 1.25		-	4.4	2.8	0.8
1 The intermediate values can be interpolated linearly.						

Knauf in the wooden panel construction

Strengthening of ribs

In principle, the ribs for wooden panels with two-sided lining of gypsum fibre boards are considered strengthened against buckling in the wall plane. The same is in force also for the panels with single-sided lining but for a ratio of the wooden rib cross-section sides $h:b$ no greater than 4:1.

Admissible horizontal load $F_{H \text{ adm.}}$

The admissible horizontal force, F_H adm., that can be taken in the panel plane, for a half-frame panel (BS = 0.60 m to 0.625 m) and single-frame panel (BS = 1.20 m to 1.25 m) can be seen in Table 1. The following correction factor: if panels are fabricated at the building site the values of F_H adm. according to Table 1 should be reduced with 20 %.

Compression force from the ribs in the cross-tie zone as a result of $F_{H \text{ adm.}}$

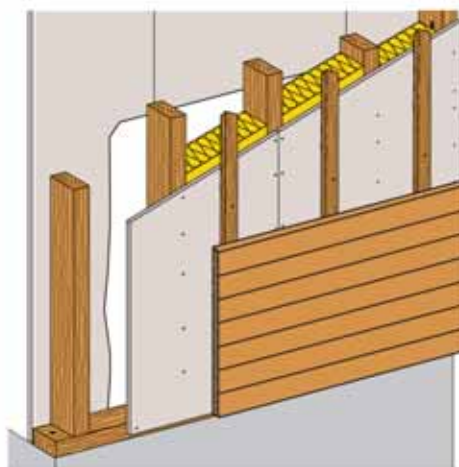
To calculate the compression force in the middle ribs (M), for single-frame panels with one middle rib it can be assumed that $\gamma = 0$, and for those with more than one middle rib it can be assumed that $\gamma = 1/5$, whereas the middle ribs are otherwise considered as being end ribs (R).

External walls with wooden bearing structure should perform a number of tasks: thermal and sound insulation as well as mechanical and fire protection. They may be provided with single- or two-sided lining of gypsum fibre boards with minimal thickness 12.5 mm. The external layer of Vidiwall gypsum fibre boards should have durable protection against the atmospheric conditions as follows:

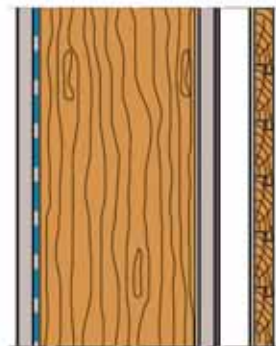
- Externally located combined thermal insulation system (WDVS), installed directly on the facade, i. e. the so called facade thermosystem certified for that application;
- Wall lining with a distance for ventilation between lining boards and facade, i. e. the so called ventilated facade;
- with lining of laths;
- with the new cement board of Knauf Aquapanel and plaster coat;
- With other suitable lining (ceramic tiles, visible masonry, stone facings).
- Structural strength.

Ventilated facade

This manner of forming the facade is distinguished for an essential advantage. This is the most reliable way of preventing the occurrence of molds inside the wall. In addition, at high summer temperatures the heated facade transfers the heat to the air in the hollow space, that air goes upwards and passes through the upper end of the facade, and a cooler air is taken in from below. Practically, the wall is never heated too much.



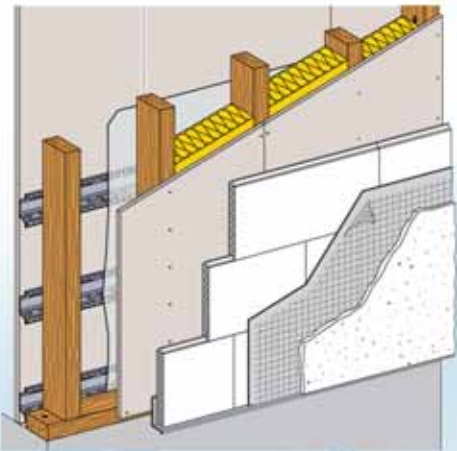
External wall with ventilated facade with wooden lath lining



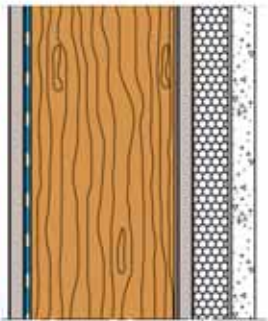
Vertical section of a wall with ventilated facade

A variety of options

External walls



External wall with thermal system



Vertical section of a wall with thermal system

Knauf facade thermosystem

This is a very good and comparatively cheaper way of additionally improving the thermal insulation of external walls, on one hand, and of preventing the eventual occurrence of cracks in the plaster coat, on the other hand. The abrupt changes in external temperature and humidity often lead to the occurrence of above-mentioned defects even after years. As the gypsum fibre board and plaster coat feature different degrees of linear expansion, there is need of sufficiently elastic layer that will absorb the occurring stress. Such a material is the expanded polystyrene which is in addition vapour-permeable. The minimal thickness is 20 mm. It is bonded to the gypsum fibre board by means of Knauf Klebepachtel. The corners are protected by applying corner-protecting strips. The expanded polystyrene should be covered entirely with glass-fibre gauze that is also embedded in a layer of Knauf Klebepachtel. Knauf noble coat which is resistant to the atmospheric conditions is applied on the outer side.

Materials for an external wall (building from the inside outwards)	
With ventilated facade	With facade thermosystem
<ul style="list-style-type: none">• Knauf gypsum fibre board, 12.5 - 18 mm thick• Vapour barrier• Wooden stud (rib) of size in accordance with the design requirements• Mineral wool ≥ 120 mm• Knauf gypsum fibre board, 12.5 - 18 mm thick• Vertical wooden laths ≥ 24 / 48 mm• Decorative wooden cladding• or Knauf Aquapanel and plaster coat• or PVC siding	<ul style="list-style-type: none">• Knauf gypsum fibre board, 12.5 - 18 mm thick• Feather rail¹ 60/27• Vapour barrier• Wooden stud (rib) of size in accordance with the design requirements• Mineral wool ≥ 120 mm• Knauf gypsum fibre board, 12.5 - 18 mm thick• Expanded polystyrene ≥ 20 mm, bonded with Knauf Klebepachtel• Glass-fibre gauze, bonded with Knauf Klebepachtel• Knauf plaster coat

¹ The feather rail (Federschiene) is installed for additional sound insulation.

The blind walls of buildings, which also perform the function of walls that separate buildings, are subject to requirements for fire safety as well as for thermal and sound insulation. This type of building walls should meet the highest requirements related to external walls.

Requirements

- Fire safety F 90 (from outside) or respectively F 30 (from inside);
- Sound insulation;
- Thermal insulation;
- Structural strength.

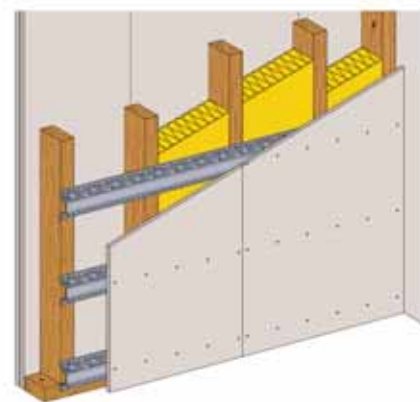
Blind wall between adjoining buildings

Dividing walls between adjoining buildings (F 30 from inside / F 90 from outside) represent a kind of single end walls situated in parallel. Each wall is designed in such a way that in case of fire from inside a fire resistance degree F 30 will be provided. If the exposed zone fails to stand the fire, then the fire protection F 90 of the second, non-exposed half of the wall will be available. The total fire resistance attainable is 120 minutes.

In the General Construction Supervision Certificate P-3773/5491-MPA BS it is said that Vidiwall gypsum fibre boards may be used as lining of wooden panel structures for blind walls of buildings.

Realization

The lining on the internal side of the building should consist of Vidiwall gypsum fibre boards of thickness 12.5 mm, and of Vidiwall gypsum fibre boards, 2 ? 15 mm thick, on the external side of the building. The gypsum fibre boards should form a closed surface and lay tightly on the wooden structural elements being vertical ribs or studs and transversal horizontal headers. As an alternative, the lining on the internal side of the building may be executed on feather rails (size 60 mm ? 27 mm) or respectively on CD profiles (size 60 mm ? 27 mm) with fixing brackets (size 60 mm ? 27 mm) or on wooden laths (size 50 mm ? 30 mm) at a distance 500 mm. For the two-layer lining the joints should be staggered but must remain in the zone of the wooden ribs. Fixing the Vidiwall gypsum fibre boards should be carried out with clamps or nails in accordance with the Building Application Permit Z-9.1-339.



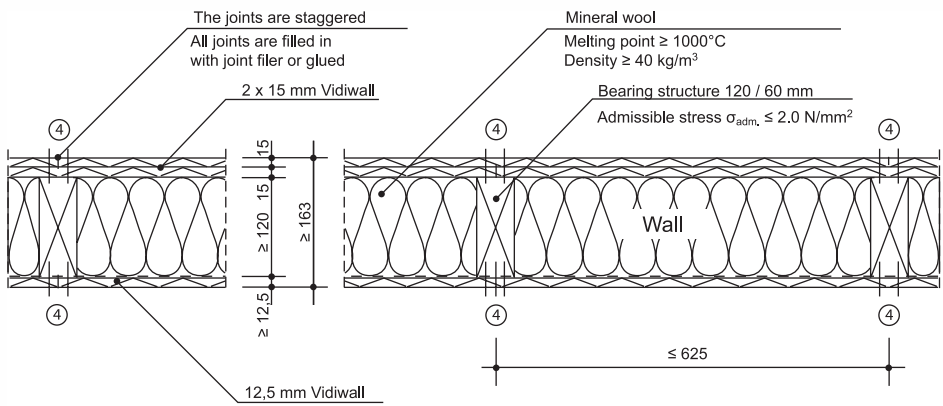
Blind wall realization with a feather rail (Federschiene).

Highest requirements

Blind walls



External wall F 90



Internal wall F 30

Legend:

④ Clamps or nails in accordance with the Building Application Permit Z-9.1-339.

Knauf system	Wall thick ness, mm	Cross- section, mm	Gypsum fibre board lining of thickness, mm	Class of fire resistance	Insulation layer of thickness, mm density, kg/m³
Bearing blind wall of a building					
Wooden structure	> 162.5	> 60 / > 120	12.5 2 x 15	F 30 inside F 90 outside	120 mm 40 kg/m³

Naturally, Knauf gypsum fibre boards can be also used in wet rooms, for instance in the bathroom. Additional sealing is required solely in the zones of direct wetting (bath tube and shower). For this purpose Knauf Flachendicht or Knauf surface sealant is applied to these zones (Group W 3 according to ONORM B 2207). Knauf special tape is embedded along the corners (both can be found in Knauf kit for sealing wet rooms). Knauf Flachendicht is also spread over the floor and Knauf sealing tape is applied to the corners. In order to compensate for eventual expansion and contraction of the dry floor, in the zone of expansion joints the sealing tape is applied with motion-allowing clearance.

No other treatment is necessary before gluing tiles on Knauf Flachendicht. In any case it is recommended to use elastic adhesive for tiles (for example, Knauf Flexkleber).



This bathroom is built in an attic room with Vidiwall gypsum fibre boards with VT edge.



Sealing in the zone of direct wetting by means of Knauf Flachendicht and sealing tape.



Applying Knauf sealing tape in corners.

For additional information please see the Technical Information about Knauf Sealing Tape / Flachendicht.

Wet rooms / surface treatment

Beautiful and without problems



Before painting or applying any other coating Vidiwall gypsum fibre boards are covered with primer. The primer and paint / coating should be compatible. The following coatings may be applied to Vidiwall boards:

- Paint, plasters, wallpapers, ceramic and stone linings:

The instructions provided by the suppliers of different products should be observed. The provisions of ONORM B 2223 or B 2230-2, respectively, should apply.

- Ceramic coverings:

Tiles and mosaic should be applied on thin-film mortar or by means of dispersion adhesive. If a primer is required, it should be compatible with the adhesive zones (Group W 2 according to ONORM B 2207).

- Noble / structural plasters:

In principle, it is recommended to use paper tapes for joint treatment under the plaster. The entire surface is treated with a suitable primer. The manufacturer's instructions should be observed.

Vidifloor gypsum fibre boards permit extremely rapid and dry construction of the floor.

In principle they are produced with higher density $> 1250 \text{ kg/m}^3$ and higher moisture resistance than those of the Vidiwall boards.

Load-bearing capacity

Vidifloor boards are distinguished for their high hardness and strength. Even the considerable loading during the construction work itself does not cause any noticeable damages, and this reduces the eventual repair costs. The boards can sustain a load of minimum 1000 N on a seal print (area) of 4 x 4 cm.

Exploitation readiness

Immediately after the application and hardening of the adhesive, which takes no more time than some hours, it is possible to walk on Vidifloor. The subsequent work operations can be carried out without any delay and this saves time.

Absence of moisture

Vidifloor boards are installed dry. In such a way it is avoided the introduction of additional moisture into the building and this saves time for drying.

Low weight

Vidifloor elements feature low weight what makes them perfect for the sanitation of old buildings. This saves the cost of expensive additional structures.

Suitable for floor heating

Installing floor heating under Vidifloor elements will not create problems at all. Their thermal conductivity is sufficient, which will save energy expenses.

Vidifloor flooring systems are available in 3 variants:

- Vidifloor elements of system F131;
- Vidifloor combined elements of system F132;
- Vidifloor boards of system F135.



Biological Safety Certificate for Vidiwall, issued by the Institute of Building Biology in Rosenheim, Germany, in May 2002.

Vidifloor

Perfect floor

	F131 Vidifloor elements <i>Two factory-glued gypsum fibre boards with a recess 5 cm wide, intended to meet higher requirements. Thickness of the element 20 mm or 25 mm. For sanitation of old buildings or in short-term construction. They are recommended for floor heating.</i>	Technical data Fire resistance F 30 - F 60 from above Design thickness = 20/25 mm Resistance to wear from office chair wheels F 30: Vidifloor element of 20 mm F 60: Vidifloor element of 25 mm	Installation Floating application Recess, bonded and fixed with screws.
	F132 Vidifloor combined elements with expanded polystyrene or mineral wool <i>Combined two-layer element of gypsum fibre boards intended for additional thermal and sound insulation. Hidden insulation layer of expanded polystyrene, 20/30 mm thick, or mineral wool, 10 mm thick. Gypsum fibre boards, 2 x 10/12.5 mm thick, + 10 mm of mineral wool; gypsum fibre boards, 2 x 10 mm thick, + 20/30 mm of expanded polystyrene. For sanitation of old buildings or in short-term construction.</i>	Technical data Fire resistance F 30 - F 90 from above Design thickness = 30, 35, 40 or 50 mm Resistance to wear from office chair wheels F 30: gypsum fibre boards, 2 x 10 mm thick, + expanded polystyrene F 60: gypsum fibre boards, 2 x 10 mm thick, + 10 mm of mineral wool F 90: gypsum fibre boards, 2 x 12.5 mm thick, + 10 mm of mineral wool ¹⁾	Installation Floating application Recess, bonded and fixed with screws.
	F135 Vidifloor boards <i>Gypsum fibre boards 10 mm/12.5 mm thick, intended to meet higher requirements, which are installed in two layers directly on the building site. Gypsum fibre boards 2 x 10 or 2 x 12.5 mm thick, with size 500 x 1500 mm or 1000 x 1500 mm. For sanitation of old buildings or in short-term commissioning. They are recommended for floor heating.</i>	Technical data Fire resistance F 30 - F 60 from above Design thickness = 20/25 mm Resistance to wear from office chair wheels F 30: gypsum fibre boards, 2 x 10 mm thick F 60: gypsum fibre boards, 2 x 12.5 mm thick	Installation Floating application in two layers. The second layer is staggered with respect to the first one, bonded with adhesive over the entire surface and fixed with screws.

¹⁾ For steel sheet bent in trapezium shape it is required an additional covering gypsum fibre board with thickness > 10 mm.

Knauf Vidifloor boards should be laid down tightly all over their surface. This requires level flattening in accordance with the size of the rough floor irregularities. In case there are floor areas which are likely to give in later on, these should be strengthened first. The floor is covered with a thick polyethylene foil, and if there is plank-board flooring, it should be covered with corrugated cardboard.

The filling compound is poured all over the floor. Installations are covered. Depending on the filling material, the covering layer should be at least 10 mm and no more than 200 mm thick if measured from the top end of installations.

Floor coverings on Vidifloor

After the adhesive hardening and complete drying up of the primer, the following coverings can be applied directly on Vidifloor floorings:

- elastic thin coverings (for instance, PVC, linoleum);
- textile coverings (moquettes);
- hard coverings (ceramic tiles, natural parquet or laminate).

The primer application protects against pollution from the work operations that follow, fixes dust remainders, and neutralizes the base before applying the adhesive for the top covering.



The two layers of Knauf Vidifloor boards are bonded and connected with screws or clamps.

Leveling the base for Vidifloor	
Irregularities of the rough floor	Leveling material (the quantity depending on level differences)
≤ 10 mm	Knauf tile putty 315
10 to 15 mm	Knauf leveling putty 415
10 to 35 mm	Knauf leveling putty 425
> 20 mm	Knauf dry filling PA
Height of filling layer ≥ 100 mm	An additional covering board is required.

Application of Vidifloor

Dry and rapid



Knauf Vidifloor boards applied over expanded polystyrene.



After applying Knauf Aqualine adhesive for dry floors, the second layer of boards is installed with joint staggering.

Installing Vidifloor boards

- The rough floor surface must be absolutely flat - level controlling is mandatory!
- A polyethylene foil (0.2 mm thick) is laid down over the putty-leveled concrete floor and pulled along the walls. Corrugated cardboard is used instead of polyethylene foil if there is plank-board flooring.
- A 10-milimeter thick insulation tape of mineral wool is placed along the walls and fixed.
- Expanded polystyrene EPS-W 20 may be laid under Vidifloor boards as an insulation layer.
- Vidifloor gypsum fibre boards (10 mm or 12.5 mm thick) are applied in two layers over it. The first layer of boards is installed with cross-shaped joint, starting with one entire board.
- Knauf Aqualine or Knauf system adhesive is applied over it, and the second layer of boards is arranged (staggered with one board), with cross-shaped joint again.
- The boards installed are immediately fixed with screws under loading (with body weight), using no less than 20 Vidifloor screws for each board (screws 19 mm long for Vidifloor boards being 10 mm thick, or 24 mm long for Vidifloor boards being 12.5 mm thick), or with clamps.
- It should not be walked on the dry floor base for four hours in order to allow the adhesive to set.
- Joints between board edges should be filled up with Knauf Uniflott. Before applying the finish covering it is recommended to prime the Vidifloor boards with Knauf special primer for dry floor. This will regulate the adhesive absorption and improve bonding.

Lining attics on a metal sub-structure

Article	Approximately required quantity / m ²	
	F 30	
	10 mm	12,5 mm
CD profile 60 x 27 x 0.6 2.60 m long or 2.75 m or 2.80 m or 3.00 m or 4.00 m	2.8 m	2.1 m
UD profile, 28 x 27 x 0.6 2.60 m long	0.8 m for walls 2.8 m for ceilings and roof slopes	0.8 m for walls 2.1 m for ceilings and roof slopes
CD profile tie 60/27	0.6 pcs.	0.4 pcs.
Anchor hanger 170 Anchor hanger 270 For a CD-profile 60/27 Class of load-bearing capacity 0.25 kN (25 kg)	3.6 pcs. 3.6 pcs.	2.7 pcs. 2.7 pcs.
Flat-head screws For fixing hangers to wood 5.1 35	3.6 pcs.	2.7 pcs.
Knauf Vidiwall 4 VT 10.0 / 1250 2000 mm Knauf Vidiwall 4 VT 12.0 / 1250 2000 mm	1.0	1.0
Screws for Vidiwall gypsum fibre boards 3.9 22 3.9 30	25 pcs.	17 pcs.
Vidiwall-Filler joint filler	0.2 kg	0.2 kg
Paper tape for joint finishing A roll of 75 m	2.5 m	2.5 m

Consumption rates

Dry flooring

Article	Approximately required quantity / m²		
	Vidifloor dry floor base		
	F131	F132	F135
Vidifloor element F131 Size: 20,0/500/1500 25,0/500/1500	1,0 m²	—	—
Vidifloor combined element F132 With mineral wool (Floor-Rock 11/10) Size: 30,0/500/1500 35,0/500/1500 With expanded polystyrene (EPS-W 20) Size: 40,0/500/1500 50,0/500/1500	—	1,0 m²	—
Vidifloor board F135 Size: 10,0/ 500/1500 10,0/1000/1500 12,5/ 500/1500 12,5/1000/1500	—	—	2,0 m²
Aqualine 759 A pail of 20 kg	—	—	0.68 kg
Vidifloor system adhesive 750 ml	—	—	90-100 g
Uniflott A package of 5 kg	—	—	0,70 kg
Adhesive for recesses Vidifloor Falzkleber A bottle of 1 kg (2 strips)	70 g	70 g	—
Dry filling layer PA For surface irregularities ≤ 20 mm high (on polyethylene foil) A sack of 50 l or ca. 25 kg	1,0 l/m² at a leveled height of 1 mm		
Insulation tape for floor corners (mineral fibres) 10 mm thick, 100 mm wide, 1250 mm long	according to corner lengths between wall and floor		
Polyethylene foil, 0.20 mm, with overlapping A roll: 25 m correspond to 100 m²	1,15 m²		
Primer for dry floor A pail of 5 kg or 10 kg	100 g	100 g	100 g
Vidifloor screws / clamps 19 mm, 24 mm	12 pcs.	12 pcs.	20 pcs.



Home interior, Plovdiv



Knauf EOOD office, Sofia



Khaskovo Hotel, Khaskovo



Show room at Leipzig Hotel, Plovdiv

Interesting

Reference sites



Orange shopping centre, Sofia



Prefabricated house in Switzerland



Prefabricated house in Vladaya village



Church near Shabla

Inquiry by Fax

I am also interested in knowing more details.

Please, send me the following documentation free of charge:

Brochures:

- ☐ Installation manual for Knauf gypsum fibre boards;
- ☐ Knauf gypsum fibre boards on wooden sub-structure.

Technical details and information:

- ☐ F13 Knauf Vidifloor dry floors;
- ☐ D68 Knauf Vidiwall attic linings;
- ☐ K811 Knauf Vidiwall gypsum fibre boards.

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