Drywall Systems

F12.de

Technical Brochure 2022-08

We have modified our construction recommendations for changes to building regulations for fire protection in timber construction for Brio prefabricated screeds with fire resistance requirments.

Please observe the supplementary notes in the document.

Knauf Pre-Fab Floor Screed

F126.de – Pre-Fab Floor screed on a separating layer / equalization
F127.de – Pre-Fab Floor screed on an insulation layer
F128B.de – Pre-Fab Floor screed as heating floor screed type B

Note on English translation / Hinweise zur englischen Fassung

This is a translation of the Technical Brochure 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 Technische Broschüres. 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.

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Introduction

Benefits of Knauf Pre-Fab Floor Screed systems

Benefits with Knauf Brio solutions

Quick and reliable completed floor
Brio pre-fab floor screed is glued on location onto the floating screed slab. Long drying times or tedious ventilation protocols become unnecessary and the floor can be covered already on the following day.

Reliability with the application
The precisely defined construction design, coordinated system components and the extensively documented assembly work steps give you the guarantee of a faultless result when installing the floor.

Brio Pre-Fab Floor Screed is loadbearing and robust
Brio consists of an extremely robust, monolithic rebated elements with a high density. This guarantees a precise fit simultaneously with the highest loadbearing capacity right into every corner: Point loads can be introduced up to 25 mm from the edge on our systems. And a further increase of possible loads by the selection, for example, of multi-layer systems is possible acc. to the proof.
Chair roll resistant without additional measures

Fire resistance and sound insulation included
Use the available proofs and certificates for all necessary construction tasks. We have tested the entire range of ceiling constructions, even in combination with fire resistance and sound insulation.

Brio – The remodelling talent
Low installation heights, dry application, rapid progress of the building phase and combination options with underfloor heating - Brio is optimally suited to the requirements for remodelling and renovation.

The Knauf full service
All the benefits of the renowned Knauf Service are available in conjunction with Brio. Personal consultation services and our Technical Advisory Service offer you fast and reliable answers for all application queries.

Field of application

Knauf Pre-Fab Floor Screed systems are used in interiors in dependence on the load, substructure and the desired floor covering as systems on insulation layers, separating layers, on light levelling mortar and equalization materials or as heated screed.
The systems save on installation thickness and weight due to the low layer thicknesses. They are thus ideal for renovation of older buildings or for new constructions with very tight completion deadlines due to the dry construction method.
Knauf Pre-Fab Floor Screed systems improve the fire protection and sound insulation without introducing additional moisture into the building. Knauf Pre-Fab Floor Screed systems are also suitable for domestic areas of high humidity and barrier-free bathrooms.

Fields and areas of application

- New construction and renovation of older residential, office, school and hospital buildings
- Domestic areas of high humidity
- Also suitable for application on underfloor heating

Top coverings

- Prefabricated parquet and mosaic parquet (chequered design)
- Floating laying of parquet
- Carpet, PVC and linoleum
- Tiles and natural stone up to 120 cm edge length

► Good to know
Knauf Brio can be used in domestic areas of high humidity or in areas of high humidity compliant to water action class W1-I.

Pre-Fab Floor screed elements for drywall based screed systems

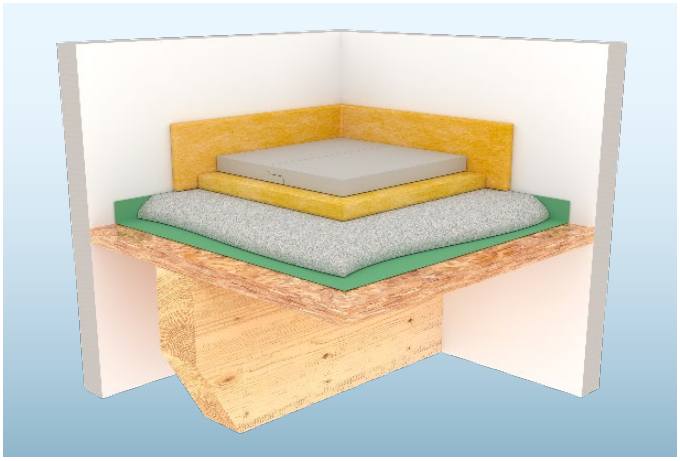
Brio consists of homogeneous gypsum fibre elements with milled rebates. Brio elements are 18 or 23 mm thick gypsum fibre boards in a format of 600 mm x 1200 mm with milled 35 mm wide rebate. The elements are adhesively bonded in the notch area using two beads of Brio Joint Adhesive and then additionally screwed or stapled together. Suitable for underfloor heating.

Brio composite elements, thickness 18 mm, laminated with 10 mm wood fibre footfall sound insulation layer or with 10 mm mineral wool (total thickness 28 mm) / 20 mm polystyrene thermal insulation layer (total thickness 38 mm) or Brio elements, thickness 23 mm, laminated with 10 mm wood fibre footfall sound insulation layer (total thickness 33 mm).

F126.de Pre-Fab Floor screed on a separating layer / equalization layer

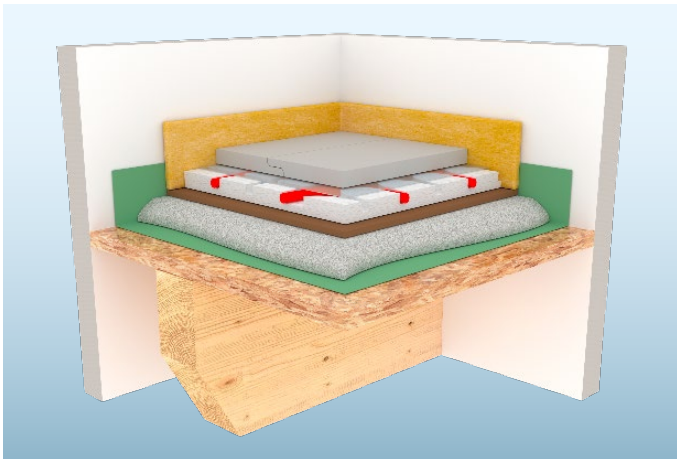
Pre-Fab Floor screed is separated from the substrate on Schrenzlage synthetic coated kraft paper or an applied stable equalization layer to compensate for unevenness under the pre-fab floor screed.

F127.de Pre-Fab Floor screed on an insulation layer



Pre-Fab Floor screed on a separate insulation layer, as a composite element (Knauf Brio WF/EPS/MW) or on light levelling mortar, to achieve fire protection, sound insulation, thermal insulation or a height equalization.

F128B.de Pre-Fab Floor screed as heating floor screed type B



Pre-Fab Floor screed on underfloor heating with heating tubes underneath the screed (construction type B).

Knauf products

Table 1: Gypsum fibre boards

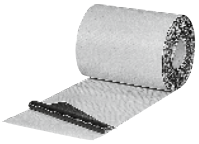
Gypsum fibre boards		
Brio 18		K851.de
Gypsum fibre board		
Format:	600 x 1200 mm	
Board thickness:	18 mm	
Weight per unit area:	23.0 kg/m²	
Material number:	00082667	
Brio 18 WF		K852.de
Gypsum fibre boards with laminated wood fibre insulation		
Format:	600 x 1200 mm	
Board thickness:	28 mm	
Weight per unit area:	25.5 kg/m²	
Material number:	00082669	
Brio 18 EPS		K853.de
Gypsum fibre boards with laminated polystyrene insulation		
Format:	600 x 1200 mm	
Board thickness:	38 mm	
Weight per unit area:	23.1 kg/m²	
Material number:	00082668	
Brio 18 MW		K854.de
Gypsum fibre board with laminated mineral wool insulation		
Format:	600 x 1200 mm	
Board thickness:	28 mm	
Weight per unit area:	24.7 kg/m²	
Material number:	00082678	
Brio 23		K851.de
Gypsum fibre board		
Format:	600 x 1200 mm	
Board thickness:	23 mm	
Weight per unit area:	28.6 kg/m²	
Material number:	00082670	
Brio 23 WF		K852.de
Gypsum fibre boards with laminated wood fibre insulation		
Format:	600 x 1200 mm	
Board thickness:	33 mm	
Weight per unit area:	31.1 kg/m²	
Material number:	00082671	
Vidiwall 1Mann 10		K811u.de
Gypsum fibre boards		
Format:	1000 x 1500 mm	
Board thickness:	10 mm	
Weight per unit area:	11.8 kg/m²	
Material number:	00545812	
Vidiwall 1Mann 12.5		K811u.de
Gypsum fibre boards		
Format:	1000 x 1500 mm	
Board thickness:	12.5 mm	
Weight per unit area:	14.8 kg/m²	
Material number:	00063663	

Table 2: Insulation layers

Insulation layers		
Holzfaserdämmplatte WF wood fibre insulation board		K439w.de
Insulating board under screed		
Format:	598 x 1198 mm	
Board thickness:	10 mm	
Weight per unit area:	approx. 2.5 kg/m²	
Material number:	00205256	
Fasoperl®-A8		K439x.de
Thermally and mechanically stable wood fibre insulation board (WF)		
Format:	1000 x 1200 mm	
Board thickness:	8 mm	
Weight per unit area:	approx. 2.1 kg/m²	
Material number:	0087193	
Knauf Insulation Trittschall-Dämmplatte TP-GP		
Format:	625 x 1200 mm	
Board thickness:	12 / 20 mm	
Compressibility:	1 mm	
Material number:	2418059 / 2431975	
Knauf Insulation Trittschall-Dämmplatte TPE		
Format:	625 x 1200 mm	
Board thickness:	12 mm	
Compressibility:	2 mm	
Material number:	2417310	

Table 3: Accessories

Accessories	
Brio Joint Adhesive	K516b.de
For the connection of the Knauf Brio units using the rebated edge Consumption for Brio rebated edge: 0.04 kg/m² Bottle: 0.8 kg Material number: 00088533	
PVA glue	K403a.de
For the connection of the Brio units using the rebated edge Consumption for Brio rebated edge: 0.04 kg/m² Bottle: 1.2 kg Material number: 00541210	
Gypsum fibre floor screws	
For screw fixing the Brio units in the rebated edge and surface Consumption: 11 pieces/m² Material number: ■ SN 4.2 x 17 00708526 ■ SN 4.2 x 22 00708531	
Gypsum fibre screws	
For fixing Brio units and Vidiwall with double-layer application Consumption: 11 pieces/m² Material number: ■ SN 3.9 x 30 00708579 ■ SN 3.9 x 45 00708559	
Brio Surface Glue	
If required for multi-layer application of Brio units Consumption: 0.6 kg/m² Material number: ■ 15 kg 00069321	
Uniflott	K467.de
Gypsum filler for hand filling of board joints on the screed units and the screw/fastener heads Material number: ■ 5 kg 00003115 ■ 25 kg 00003114	
Estrichgrund screed primer	F431.de
Primer for absorbent flooring substrates Consumption (diluted 1:1 with water): 50 - 150 g/m² Material number: ■ 5 kg 00005700 ■ 10 kg 00005355	
N 410	F421.de
Gypsum based floor filling compound Layer thickness: 0 – 10 mm Consumption: 1.6 kg/m² per mm Compressive strength: > 25 N/mm² Material number: ■ 25 kg 00532476	

Accessories	
Mineral wool edge insulation strips	K436b.de
To avoid sound bridges and contacts that can impair the insulation properties Format: 100 x 1200 x 12 mm Melting point: ≥ 1000 °C Material number: 00108502	
Schrenzlage synthetic coated kraft paper	K438.de
PE coated synthetic kraft paper for floor applications Format: 1.25 x 80 m Weight per unit area approx. 0.1 kg/m² Material number: 00003878	
Katja Sprint Abdichtungsbahn sealing membrane	F457.de
Self-adhesive sealing for water-proofing against ground moisture Format: 1.25 x 32 m Weight per unit area approx. 0.9 kg/m² Material number: 0082044	
Katja Sprint Anschlussstreifen connector tape	F459.de
Self-adhesive connector tape for Katja Sprint Abdichtungsbahn sealing membrane Format: 0.2 x 15 m Roll weight: 4.3 kg Material number: 00039929	
Katja Sprint Anschlussfix adhesive	F458.de
For connection of Katja Sprint Abdichtungsbahn sealing membrane to the moisture barrier in interiors Cartridge: 310 ml Material number: 00468506	
Spezialhaftgrund bonding primer	F433.de
Special primer for wooden and tile substrates in the floor area Material number: ■ 5 kg 00220628	

Product overview and technical data

Table 4: Mechanically bonded bulk leveller / light levelling mortar

	Mechanically bonded bulk leveller Brio Schüttung dB	Siliperl®	Trockenschüttung PA dry bulk leveller	
				
Field of application	Levelling of unevenness and heavy filling on wood joist ceilings to improve the sound insulation. Highest self weight of the bulk levellers.	Levelling of unevenness, highly stressed screed constructions and fire resistant constructions. Sound insulation upgrade via medium self weight	Levelling of unevenness and equalizing the floor level. For implementation of certified fire protection constructions.	
Benefits	■ Improved sound insulation ■ High load capability ■ Dry application	■ Non-combustible ■ Very good grain interlocking when compacted ■ Improvement of the sound insulation due to weight ■ Dry application	■ Easy to use ■ Good load capability ■ Dry application	
Raw material	Anhydrite granulate	Expanded shale	Perlite mineral encasement layer	
Grain size	0.5 – 4 mm	1 – 3 mm	1 – 6 mm	
Density	1650 kg/m^3	660 kg/m^3	550 kg/m^3	
Weight per unit area	approx. 16.5 kg/m^2 per cm[1)]	approx. 6.9 kg/m^2 per cm[2)]	approx. 5.5 kg/m^2 per cm	
Building material class	A1	A1	A1	
Compressive strength (with 10 % compaction)	> 300 kPa (0.3 N/mm^2) with 10 % compaction	> 300 kPa (0.3 N/mm^2) with 10 % compaction	> 310 kPa (0.31 N/mm^2) with 10 % compaction	
Thermal conductivity λ	–	–	–	
Layer thickness	15 – 150 mm	10 – 100 mm in one operation 101 – 200 mm in two operations	20 – 100 mm	
Application	Apply and level; compact the corners by impacts	Apply with 5% excess height; level; compact by walking on it with low leveller heights. From 60 mm height apply Fasoperl®-A8 and compact mechanically to 5 % compaction	Apply as loose material by applying and levelling; do not compact	
Package size	25 kg/bag corresponds to approx. 15 l/bag	40 l/bag	50 l/bag	
Material number	00708649	00071644	00003701	
Product data sheet	F475b.de	F473f.de	K437.de	

1) At delivery and per cm height

2) Fully installed and compacted

	Mechanically bonded bulk leveller		Light levelling mortar	
	Bituperl®	Nivoperl®	EPO-Leicht light levelling mortar	S 400 Sprint
				
	Levelling of unevenness and equalizing the floor level. Lightweight material. Interlocks and sticks together under compaction to a stable layer.	Levelling of unevenness and equalizing the floor level. Very lightweight material. Interlocks and sticks together under compaction to a stable layer.	Level equalization with high static loads or dynamic loads simultaneously with low self weight. Bonded material. For implementation of certified fire protection constructions.	Level equalization at high static loads or dynamic loads. Bonded material.
	■ Very light ■ Very good grain adhesion when compacted ■ Even when under dynamic loads in residential applications too ■ Dry application ■ Good insulation qualities	■ Low weight ■ Bonding of the grains to a layer ■ Even when under dynamic loads in residential applications too ■ Dry application ■ Good insulation qualities	■ Low weight ■ High load capability ■ Conditionally walkable after 24 h ■ Subsequent work possible after 24 h ■ No water introduced into the building regardless of bonded application	■ Low weight ■ High load capability ■ Conditionally walkable after 12 h ■ Subsequent work possible after 24 h ■ Machine application possible
	Bitumen coated perlite	Paraffin resin coated perlite	Expanded glass granulate bonded with epoxy resin	EPS aggregate bonded with quick-setting cement
	0 – 6 mm	0 – 6 mm	2 – 4 mm	≤ 4 mm
	165 kg/m^3	140 kg/m^3	200 kg/m^3	400 kg/m^3
	approx. 1.85 kg/m^2 per cm [2)]	approx. 1.54 kg/m^2 per cm [2)]	approx. 2.0 kg/m^2 per cm	approx. 4.0 kg/m^2 per cm
	B2	B2	B1 (B-s2, d0)	A2
	> 90 kPa (0.09 N/mm^2) with 10 % compaction	> 90 kPa (0.09 N/mm^2) with 10 % compaction	approx. 300 kPa (0.3 N/mm^2)	> 500 kPa (0.5 N/mm^2) with 10 % compaction
	0.060 W/(m·K)	0.060 W/(m·K)	approx. 0.070 W/(m·K)	0.1014 W/(m·K)
	10 – 100 mm in one operation 101 – 200 mm in two operations	10 – 100 mm in one operation 101 – 160 mm in two operations	15 – 800 mm	10 – 150 mm in one operation 151 – 300 mm in two operations
	Apply with 10% excess height; level; compact by walking on it with low leveller heights. From 60 mm height apply Fasoperl®-A8 and compact mechanically to 10 % compaction	Apply with 10% excess height; level; compact by walking on it with low leveller heights. From 60 mm height apply Fasoperl®-A8 and compact mechanically to 10 % compaction	Mix with FE-Imprägnierung; apply; level; allow to harden; conditionally walkable after 24 h	Mix with water; apply; level; allow to set; allow to harden, conditionally walkable after 12 h
	100 l/bag	100 l/bag	EPO-Perl: 60 l/bag FE-Imprägnierung impregnation agent: 1 kg tin	60 l/bag
	00086824	00086832	EPO-Perl: 00008649 FE-Imprägnierung impregnation agent 1 kg 00002871	00691357
	F473d.de	F473e.de	F441.de	F401.de

Building physics

Stability

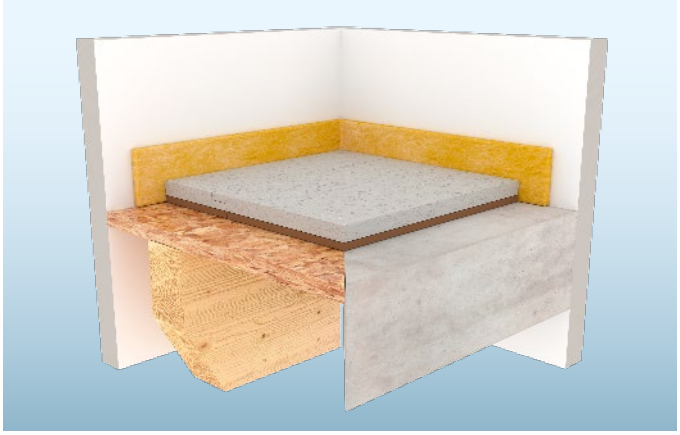
Fire resistance

Sound insulation

Construction examples

These constructions ofer a choice of four conventional construction designs with their preferred characteristics and are for reference purposes.

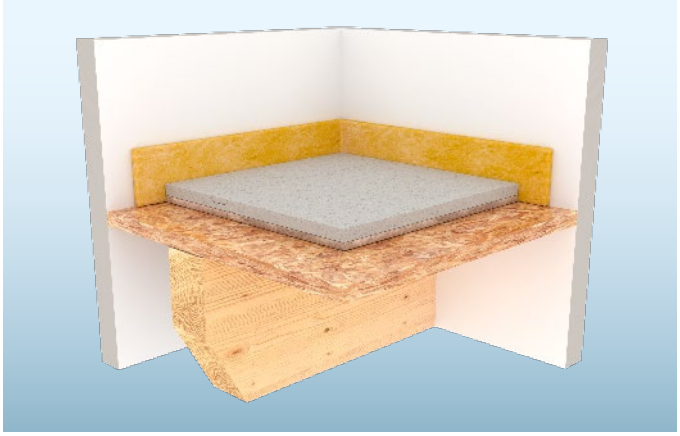
Construction 1



- Construction design
  - Base layer: Brio 18 WF / Brio 23 WF
- Fire resistance
  - Up to F60 from above on solid / trapezoid sheet metal / wood joist / other standard ceilings with Brio 18 WF or Brio 23 WF (see page 31)
  - Up to F90 from above on wood joist ceilings with Brio 23 WF (see page 30)
- Low structure height
  - ≥ 28 mm with Brio 18 WF
  - ≥ 33 mm with Brio 23 WF
- Good building acoustic quality

Carrying capacities see page 17, line 47 and page 19, line 68

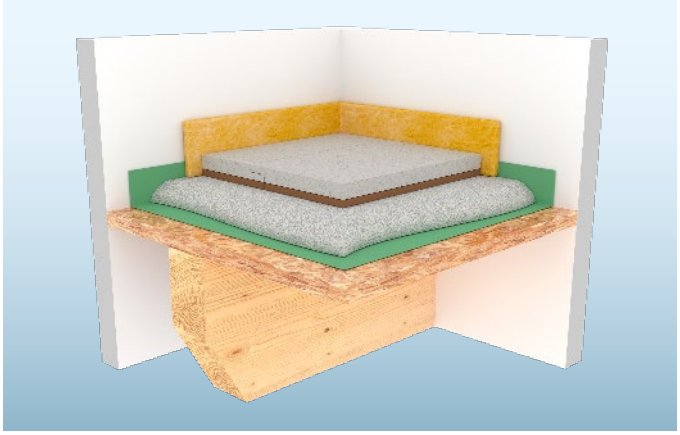
Construction 2



- Construction design
  - Base layer: Brio 18 MW
- Fire resistance:
  Up to F60 from above on wood joist ceilings (see page 30)
- Low construction height of ≥ 28 mm
- Good building acoustic quality

Carrying capacities see page 14, line 16

Construction 3



- Construction design
  - Base layer: Brio 23 WF
  - Equalization layer: 30 to 60 mm Brio Schüttung dB
- Fire resistance
  Up to F90 from above on wood joist ceilings / other standard ceilings (see page 31)
- Low construction height of ≥ 63 mm
- Very good building acoustic quality
- Excellent load capability

Carrying capacities see page 19, line 70

Construction 4

- Construction design
  - Base layer: Brio 18
  - Underfloor heating: Uponor Siccus
- Fire resistance:
  Up to F30 from above on solid / trapezoid sheet metal / wood joist / other standard ceilings (see page 31)
- Low structure height with integrated underfloor heating of ≥ 43 mm

Carrying capacities see page 16, line 45

Note	For equalization of minor unevenness on the substrate it is recommended that you use levelling and equalization compounds on a suitable primer. Use in case of larger unevenness on the substrate with a non-combustible Knauf bulk leveller / light levelling mortar and possible use of a load distribution board to suit the selected bulk leveller.

Fundamentals

Usage categories and carrying capacity following EN 1991-1-1/NA:2010-12

Usages and application areas Examples following EN 1991-1-1/NA:2010-12 Line	Usage and examples	Single load in kN	Area load in kN/m²	From page
1	Attic floor is walkable but not suitable for residential purposes (accesible loft up to 1.80 m clearance)	1	1	13
	Rooms and corridors in residential buildings, bedrooms in hospitals, hotel rooms incl. the corresponding kitchens and bathrooms	1	2	
2	Corridors in office buildings, office areas, doctors surgeries without heavy equipment, waiting rooms, lounges including the corridors, areas in sales rooms up to 50 m² in residential, office and comparable buildings	2	2	16
	Office areas with higher loads	2	3	
3	Corridors and kitchens in hospitals, hotels, retirement homes, boarding schools etc.; treatment rooms in hospitals including surgery rooms without heavy equipment; cellars in residential buildings	3	3	20
	Areas with tables, e.g. crèches, day nurseries, classrooms, cafes, restaurants, dining halls, reading rooms, reception rooms, staff rooms (assignment of loads divergent to DIN EN 1991-1-1/NA:2010-12)	3	4	
4	Areas with fixed seating, e.g. surfaces in churches, theatres or cinemas, congress rooms, auditoria, waiting rooms	4	4	22
	Offices, working spaces and corridors with heavy equipment. freely walkable areas, e.g. museum and exhibition areas, entrance areas in public buildings and hotels as well as the corridors in line 3	4	5	
5	Areas where large groups of people meet, e.g. in buildings such as concert halls and entrance areas; areas in retail stores and department stores areas in factories and light-duty workshops (dead loads)	5	5	24

Notes	The table above is for reference purposes only. The loads to be applied for the usage categories may diverge in individual cases and should be specified by the structural design engineer.

Surface / floor covering	
A	Without or with standard floor coverings including stoneware tiles, edge length ≤ 33 cm, thickness ≥ 9 mm
B	Stoneware tiles, edge length > 33 cm to 60 cm, thickness ≥ 9 mm or natural stone edge length ≤ 60 cm, thickness ≥ 10 mm
C	Stoneware tiles, edge length > 60 cm to 120 cm, thickness ≥ 9 mm or natural stone edge length ≤ 120 cm, thickness ≥ 20 mm

Notes	The floor covering must be suitable for the respective loads, observe the manufacturers instructions. Use flexible adhesive systems, the use must be coordinated. For further details see “Surface treatment and floor covering” on page 48.

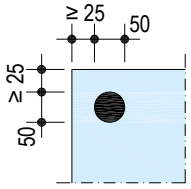
Determination of the permissible load capacity

The basis for the stated load capacities on page 13 to 25 are real load tests according to the following test procedure:

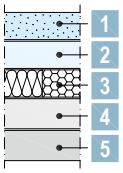
Single load (point load)

The specifications for the permissible point loads are based on:

- Loading area Ø 50 mm
- Spacing from edge ≥ 25 mm
- Deflection ≤ 3 mm



Floor constructions Brio 18 – usages and application areas line 1 – point load 1 kN

1 Base layer	Floor coverings with/ w/o reinforcement element			Possible construction underneath the base layer / underfloor heating			
		2 Additional		3 Footfall impact sound insulation / underfloor heating (Total thickness)	4 Cover board required on bulk leveller	5 Equalization layer / insulation for levelling on basic floor	
At least	Without	Vidiwall 1Mann 10	Brio 18	Maximum		Maximum	Line
Brio 18							
	A	**A**	**A**	–	Fasoperl®-A8	Bituperl® or Nivoperl® 60 - 100 mm	1
	A	**A**	**A, B, C**	–	–	Dry bulk leveller PA 20 - 100 mm	2
	A, B	**A, B**	**A, B, C**	Wood fibre insulation board WF 10 mm	–	Brio Schüttung dB 15 - 60 mm or Siliperl® 10 - 60 mm	3
	A	**A**	**A, B, C**	Footfall sound insulation board TP-GP 12-1	Wood fibre insulation board WF 10 mm or Fasoperl®-A8	Dry bulk leveller PA 20 - 50 mm	4
	A	**A**	**A**	Footfall sound insulation TPE 12-2 or Footfall sound insulation TP-GP 12-1	Fasoperl®-A8	Brio Schüttung dB 15 - 60 mm or Siliperl® 10 - 60 mm	5
	**A**	**A**	**A, B, C**	Footfall sound insulation TP-GP 12-1	–	–	6
	A	**A**	**A, B, C**	Footfall sound insulation TP-GP 20-1	–	–	7
	A	**A**	**A, B, C**	–	–	EPS DEO > 100 kPa single-/double-layer ≤ 100 mm	8
	–	**–**	**A, B, C**	–	–	EPS DEO > 100 kPa single-/double-layer ≤ 200 mm	9
	A	**A**	**A, B**	–	–	EPS DEO > 100 kPa single-/double-layer ≤ 60 mm on Vidiwall 1Mann 10 on Dry bulk leveller PA 20 - 100 mm	10
	A	**A**	**A, B**	–	–	EPS DEO > 200 kPa single-/double-layer ≤ 100 mm on Vidiwall 1Mann 10 on Dry bulk leveller PA 20 - 100 mm	11
	A	**A**	**A, B, C**	Uponor Siccus 25 mm on Vidiwall 1Mann 12.5 on Footfall sound insulation board TPE 12-2	–	–	12

Surface / floor covering

A Without or with standard floor coverings including stoneware tiles, edge length ≤ 33 cm, thickness ≥ 9 mm

B Stoneware tiles, edge length > 33 cm to 60 cm, thickness ≥ 9 mm or natural stone edge length ≤ 60 cm, thickness ≥ 10 mm

C Stoneware tiles, edge length > 60 cm to 120 cm, thickness ≥ 9 mm or natural stone edge length ≤ 120 cm, thickness ≥ 20 mm

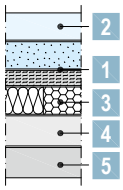
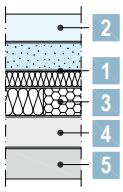
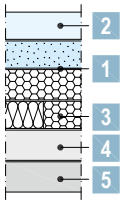
Usages and application areas Examples following DIN EN 1991-1-1/NA:2010-12

Line	Usage and examples	Single load	Area load
1	Attic is walkable, not suitable for residential purposes (accesible loft up to 1.80 m clearance)	**1 kN**	**1 kN/m²**
	Rooms and corridors in residential buildings, bedrooms in hospitals, hotel rooms incl. the corresponding kitchens and bathrooms	**1 kN**	**2 kN/m²**

Notes

- Floor coverings category **B** or **C** are only permissible with maximum ceiling deflection ≤ l/500.
- The load capacity of the floor slab/ceiling must be sufficient at all points. For equalization of minor unevenness on the substrate it is recommended that you use levelling and equalization compounds on a suitable primer.
- **Equalization layers made of lightweight levelling mortars such as S 400 Sprint and EPO-Leicht can generally be used under all of the mentioned constructions. The possible carrying capacity is not reduced as a result.**
- Constructions for higher load capacities on request.

Floor constructions Brio 18 – usages and application areas line 1 – point load 1 kN (continued)

1 Base layer	Floor coverings with / without reinforcement element			Possible construction underneath the base layer / underfloor heating			
		2 Additional		3 Footfall impact sound insulation / Underfloor heating (Total thickness)	4 Cover board required on bulk leveller	5 Equalization layer / Insulation for levelling on basic floor	
At least	Without	Vidiwall 1Mann 10	Brio 18	Maximum		Maximum	Line
Brio 18 WF							
	**A**		**A**	–	–	Bituperl® or Nivoperl® 10 - 100 mm	13
	A, B		**A, B, C**	–	–	Dry bulk leveller PA 20 - 100 mm	14
	A, B		**A, B, C**	–	Fasoperl®-A8[1)]	Brio Schüttung dB 15 - 150 mm or Siliperl® 10 - 200 mm	15
Brio 18 MW							
	**A**		**A, B, C**	–	–	–	16
	A		**A**	–	Fasoperl®-A8 or Vidiwall 1Mann 10	Brio Schüttung dB 15 - 100 mm or Siliperl® 10 - 100 mm	17
Brio 18 EPS							
	**A**		**A**	–	Fasoperl®-A8[1)]	Brio Schüttung dB 15 - 100 mm or Siliperl® 10 - 100 mm	18

1) Up to 60 mm bulk leveller can be applied with Siliperl® even without Fasoperl®-A8 or Vidiwall 1Mann 10. The necessary compaction is undertaken when walking during screed application

Surface / floor covering

A Without or with standard floor coverings including stoneware tiles, edge length ≤ 33 cm, thickness ≥ 9 mm

B Stoneware tiles, edge length > 33 cm to 60 cm, thickness ≥ 9 mm or natural stone edge length ≤ 60 cm, thickness ≥ 10 mm

C Stoneware tiles, edge length > 60 cm to 120 cm, thickness ≥ 9 mm or natural stone edge length ≤ 120 cm, thickness ≥ 20 mm

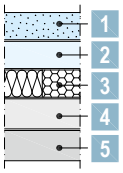
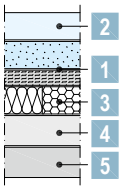
Usages and application areas Examples following DIN EN 1991-1-1/NA:2010-12

Line	Usage and examples	Single load	Area load
1	Attic is walkable, not suitable for residential purposes (accesible loft up to 1.80 m clearance)	**1 kN**	**1 kN/m²**
	Rooms and corridors in residential buildings, bedrooms in hospitals, hotel rooms incl. the corresponding kitchens and bathrooms	**1 kN**	**2 kN/m²**

Notes

- Floor coverings category **B** or **C** are only permissible with maximum ceiling deflection ≤ l/500.
- The load capacity of the floor slab/ceiling must be sufficient at all points. For equalization of minor unevenness on the substrate it is recommended that you use levelling and equalization compounds on a suitable primer.
- **Equalization layers made of lightweight levelling mortars such as S 400 Sprint and EPO-Leicht can generally be used under all of the mentioned constructions. The possible carrying capacity is not reduced as a result.**
- Constructions for higher load capacities on request.

Floor constructions Brio 23 – usages and application areas line 1 – point load 1 kN

1 Base layer	Floor coverings with/w/o reinforcement element			Possible construction underneath the base layer / underfloor heating			
		2 Additional		3 Footfall impact sound insulation / underfloor heating (Total thickness)	4 Cover board required on bulk leveller	5 Equalization layer / insulation for levelling on basic floor	
At least	Without	Vidiwall 1Mann 12.5	Brio 23	Maximum		Maximum	Line
Brio 23							
	**A**	**A**	**A**	–	Fasoperl®-A8	Bituperl® or Nivoperl® 10 - 100 mm	19
	A, B	**A, B**	**A, B, C**	–	–	Dry bulk leveller PA 20 - 100 mm	20
	A, B	**A, B**	**A, B, C**	–	Wood fibre insulation WF 10 mm or Fasoperl®-A8	Dry bulk leveller PA 20 - 100 mm	21
	A	**A, B**	**A, B, C**	Wood fibre insulation WF 10 mm	Fasoperl®-A8[1)]	Brio Schüttung dB 15 - 100 mm or Siliperl® 10 - 100 mm	22
	A, B	**A, B**	**A, B, C**	Footfall sound insulation TP-GP 12-1	Wood fibre insulation WF 10 mm or Fasoperl®-A8	Dry bulk leveller PA 20 - 50 mm	23
	A, B	**A, B**	**A, B, C**	–	–	EPS DEO > 100 kPa single-/double-layer ≤ 200 mm	24
	A	**A, B**	**A, B**	–	–	EPS DEO > 100 kPa single-/double-layer ≤ 60 mm on Vidiwall 1Mann 10 on Dry bulk leveller PA 20 - 100 mm	25
	A	**A, B**	**A, B**	–	–	EPS DEO > 200 kPa single-/double-layer ≤ 100 mm on Vidiwall 1Mann 10 on Dry bulk leveller PA 20 - 100 mm	26
	A, B	**A, B**	**A, B, C**	Uponor Siccus 25 mm on Vidiwall 1Mann 12.5 on Footfall sound insulation board TPE 12-2	–	–	27
Brio 23 WF							
	**A**		**A**	–	–	Bituperl® or Nivoperl® 10 - 100 mm	28
	A, B		**A, B, C**	–	–	Dry bulk leveller PA 20 - 100 mm	29
	A, B		**A, B, C**	–	Fasoperl®-A8[1)]	Brio Schüttung dB 15 - 100 mm or Siliperl® 10 - 100 mm	30

1) Up to 60 mm bulk leveller can be applied with Siliperl® even without Fasoperl®-A8. The necessary compaction is undertaken when walking during screed application

Surface / floor covering

A Without or with standard floor coverings including stoneware tiles, edge length ≤ 33 cm, thickness ≥ 9 mm

B Stoneware tiles, edge length > 33 cm to 60 cm, thickness ≥ 9 mm or natural stone edge length ≤ 60 cm, thickness ≥ 10 mm

C Stoneware tiles, edge length > 60 cm to 120 cm, thickness ≥ 9 mm or natural stone edge length ≤ 120 cm, thickness ≥ 20 mm

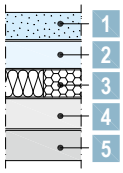
Usages and application areas Examples following DIN EN 1991-1-1/NA:2010-12

Line	Usage and examples	Single load	Area load
1	Attic is walkable, not suitable for residential purposes (accesible loft up to 1.80 m clearance)	**1 kN**	**1 kN/m²**
	Rooms and corridors in residential buildings, bedrooms in hospitals, hotel rooms incl. the corresponding kitchens and bathrooms	**1 kN**	**2 kN/m²**

Notes

- Floor coverings category **B** or **C** are only permissible with maximum ceiling deflection ≤ l/500.
- The load capacity of the floor slab/ceiling must be sufficient at all points. For equalization of minor unevenness on the substrate it is recommended that you use levelling and equalization compounds on a suitable primer.
- **Equalization layers made of lightweight levelling mortars such as S 400 Sprint and EPO-Leicht can generally be used under all of the mentioned constructions. The possible carrying capacity is not reduced as a result.**
- Constructions for higher load capacities on request.

Floor constructions Brio 18 – usages and application areas line 2 – point load 2 kN

1 Base layer	Floor coverings with / without reinforcement element			Possible construction underneath the base layer / underfloor heating			
		2 Additional		3 Footfall impact sound insulation / underfloor heating (Total thickness)	4 Cover board required on bulk leveller	5 Equalization layer / Insulation for levelling on basic floor	
At least	Without	Vidiwall 1Mann 10	Brio 18	Maximum		Maximum	Line
Brio 18							
	A	**A**	**A, B**	–	–	Fasoperl®-A8 or fleece layer	31
	A	**A**	**A, B**	–	–	Dry bulk leveller PA 20 - 60 mm	32
	–	–	**A**	–	–	Dry bulk leveller PA 50 - 100 mm	33
	A	**A**	**A**	–	Fasoperl®-A8	Bituperl® or Nivoperl® 10 - 60 mm	34
	A	**A**	**A**	–	Fasoperl®-A8[1)]	Brio Schüttung dB 15 - 150 mm or Siliperl® 10 - 200 mm	35
	A	**A**	**A**	Wood fibre insulation WF 10 mm	–	Dry bulk leveller PA 20 - 60 mm	36
	A	**A**	**A**	Wood fibre insulation WF 10 mm		Brio Schüttung dB 15 - 60 mm or Siliperl® 10 - 60 mm	37
	A	**A, B**	**A, B, C**	–	–	EPS DEO > 100 kPa single-/double-layer ≤ 40 mm	38
	**A**	**A**	**A, B, C**	–	–	EPS DEO > 100 kPa single-/double-layer ≤ 100 mm	39
	A	**A**	**A**	–	–	EPS DEO > 100 kPa single-/double-layer ≤ 60 mm on Vidiwall 1Mann 10 on Dry bulk leveller PA 20 - 50 mm	40
	A	**A**	**A**	–	–	EPS DEO > 200 kPa single-/double-layer ≤ 100 mm on Vidiwall 1Mann 10 on Dry bulk leveller PA 20 - 50 mm	41
	A	**A**	**A**	–	–	Styrodur XPS 4000 CS single-/double-layer ≤ 100 mm	42
	A	**A, B**	**A, B**	2x Wood fibre insulation WF 10 mm	–	–	43
	–	–	**A**	Footfall sound insulation TP-GP 20-1	–	–	44
	A	**A**	**A, B, C**	Uponor Siccus 25 mm	–	–	45
	–	–	**A, B, C**	Uponor Siccus 25 mm on Vidiwall 1Mann 12.5 on Footfall sound insulation TPE 12-2	–	–	46

1) Up to 60 mm bulk leveller can be applied with Siliperl® even without Fasoperl®-A8. The necessary compaction is undertaken when walking during screed application

Surface / floor covering

A Without or with standard floor coverings including stoneware tiles, edge length ≤ 33 cm, thickness ≥ 9 mm

B Stoneware tiles, edge length > 33 cm to 60 cm, thickness ≥ 9 mm or natural stone edge length ≤ 60 cm, thickness ≥ 10 mm

C Stoneware tiles, edge length > 60 cm to 120 cm, thickness ≥ 9 mm or natural stone edge length ≤ 120 cm, thickness ≥ 20 mm

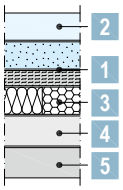
Usages and application areas Examples following DIN EN 1991-1-1/NA:2010-12

Line	Usage and examples	Single load	Area load
2	Corridors in office buildings, office areas, doctors surgeries without heavy equipment, waiting rooms, lounges including the corridors, areas in sales rooms up to 50 m² in residential, office and comparable buildings	**2 kN**	**2 kN/m²**
	Office areas with higher loads	**2 kN**	**3 kN/m²**

Notes

- Floor coverings category **B** or **C** are only permissible with maximum ceiling deflection ≤ l/500.
- The load capacity of the floor slab/ceiling must be sufficient at all points. For equalization of minor unevenness on the substrate it is recommended that you use levelling and equalization compounds on a suitable primer.
- **Equalization layers made of lightweight levelling mortars such as S 400 Sprint and EPO-Leicht can generally be used under all of the mentioned constructions. The possible carrying capacity is not reduced as a result.**
- Constructions for higher load capacities on request.

Floor constructions Brio 18 – usages and application areas line 2 – point load 2 kN (continued)

1 Base layer At least	Floor coverings with/ without reinforcement element 2 Additional Without	Vidiwall 1Mann 10	Brio 18	Possible construction underneath the base layer / underfloor heating 3 Footfall impact sound insulation / underfloor heating (Total thickness) Maximum	4 Cover board required on bulk leveller	5 Equalization layer / Insulation for levelling on basic floor Maximum	Line
Brio 18 WF							
	**A**		**A, B**	–	–	–	47
	A		**A**	–	Fasoperl®-A8[1)]	Brio Schüttung dB 15 - 150 mm or Siliperl® 10 - 150 mm	48
	A		**A, B**	Wood fibre insulation board WF 10 mm	–	–	49

1) Up to 60 mm bulk leveller can be applied with Siliperl® even without Fasoperl®-A8. The necessary compaction is undertaken when walking during screed application

Surface / floor covering

A Without or with standard floor coverings including stoneware tiles, edge length ≤ 33 cm, thickness ≥ 9 mm

B Stoneware tiles, edge length > 33 cm to 60 cm, thickness ≥ 9 mm or natural stone edge length ≤ 60 cm, thickness ≥ 10 mm

C Stoneware tiles, edge length > 60 cm to 120 cm, thickness ≥ 9 mm or natural stone edge length ≤ 120 cm, thickness ≥ 20 mm

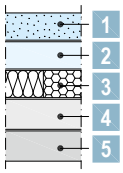
Usages and application areas Examples following DIN EN 1991-1-1/NA:2010-12

Line	Usage and examples	Single load	Area load
2	Corridors in office buildings, office areas, doctors surgeries without heavy equipment, waiting rooms, lounges including the corridors, areas in sales rooms up to 50 m^2 in residential, office and comparable buildings	**2 kN**	**2 kN/m^2**
	Office areas with higher loads	**2 kN**	**3 kN/m^2**

Notes

- Floor coverings category **B** or **C** are only permissible with maximum ceiling deflection ≤ l/500.
- The load capacity of the floor slab/ceiling must be sufficient at all points. For equalization of minor unevenness on the substrate it is recommended that you use levelling and equalization compounds on a suitable primer.
- **Equalization layers made of lightweight levelling mortars such as S 400 Sprint and EPO-Leicht can generally be used under all of the mentioned constructions. The possible carrying capacity is not reduced as a result.**
- Constructions for higher load capacities on request.

Floor constructions Brio 23 – usages and application areas line 2 – point load 2 kN

1 Base layer	Floor coverings with / without reinforcement element			Possible construction underneath the base layer / underfloor heating			
		2 Additional		3 Footfall impact sound insulation / underfloor heating (Total thickness)	4 Cover board required on bulk leveller	5 Equalization layer / insulation for levelling on basic floor	
At least	Without	Vidiwall 1Mann 12.5	Brio 23	Maximum		Maximum	Line
Brio 23							
	A	A, B	A, B	–	–	Fasoperl®-A8 or fleece layer	50
	A	A	A, B, C	–	–	Dry bulk leveller PA 20 - 50 mm	51
	A	A	A, B	–	–	Dry bulk leveller PA 20 - 60 mm	52
	–	A	A	–	–	Dry bulk leveller PA 50 - 100 mm	53
	A	A	A, B	–	Fasoperl®-A8[1)]	Brio Schüttung dB 15 - 150 mm or Siliperl® 10 - 150 mm	54
	A, B	A, B	A, B, C	–	–	EPS DEO > 100 kPa single-/double-layer ≤ 100 mm	55
	–	–	A, B, C	–	–	EPS DEO > 100 kPa single-/double-layer ≤ 200 mm	56
	A, B	A, B	A, B, C	–	–	EPS DEO > 150 kPa single-/double-layer ≤ 60 mm	57
	A, B	A, B	A, B, C	–	–	EPS DEO > 200 kPa single-/double-layer ≤ 100 mm	58
	A	A	A, B	–	–	EPS DEO > 100 kPa single-/double-layer ≤ 60 mm on Vidiwall 1Mann 10 on Dry bulk leveller PA 20 - 50 mm	59
	A	A	A, B	–	–	EPS DEO > 200 kPa single-/double-layer ≤ 100 mm on Vidiwall 1Mann 10 on Dry bulk leveller PA 20 - 50 mm	60
	A, B	A, B	A, B	Wood fibre insulation WF 10 mm	–	–	61
	A	A, B	A, B	2x Wood fibre insulation WF 10 mm	–	–	62
	–	–	A	Footfall sound insulation TPE 12-2	–	–	63
	–	A	A, B, C	Footfall sound insulation TP-GP 12-1	–	–	64
	–	–	A, B, C	Footfall sound insulation TP-GP 20-1	–	–	65
	A	A, B	A, B, C	Uponor Siccus 25 mm	–	–	66
	A	A	A, B, C	Uponor Siccus 25 mm on Vidiwall 1Mann 12.5 on Footfall sound insulation TPE 12-2	–	–	67

1) Up to 60 mm bulk leveller can be applied with Siliperl® even without Fasoperl®-A8. The necessary compaction is undertaken when walking during screed application

Surface / floor covering

A Without or with standard floor coverings including stoneware tiles, edge length ≤ 33 cm, thickness ≥ 9 mm

B Stoneware tiles, edge length > 33 cm to 60 cm, thickness ≥ 9 mm or natural stone edge length ≤ 60 cm, thickness ≥ 10 mm

C Stoneware tiles, edge length > 60 cm to 120 cm, thickness ≥ 9 mm or natural stone edge length ≤ 120 cm, thickness ≥ 20 mm

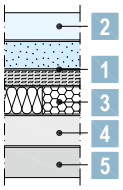
Usages and application areas Examples following DIN EN 1991-1-1/NA:2010-12

Line	Usage and examples	Single load	Area load
2	Corridors in office buildings, office areas, doctors surgeries without heavy equipment, waiting rooms, lounges including the corridors, areas in sales rooms up to 50 m² in residential, office and comparable buildings	2 kN	2 kN/m²
	Office areas with higher loads	2 kN	3 kN/m²

Notes

- Floor coverings category **B** or **C** are only permissible with maximum ceiling deflection ≤ l/500.
- The load capacity of the floor slab/ceiling must be sufficient at all points. For equalization of minor unevenness on the substrate it is recommended that you use levelling and equalization compounds on a suitable primer.
- **Equalization layers made of lightweight levelling mortars such as S 400 Sprint and EPO-Leicht can generally be used under all of the mentioned constructions. The possible carrying capacity is not reduced as a result.**
- Constructions for higher load capacities on request.

Floor constructions Brio 23 – usages and application areas line 2 – point load 2 kN (continued)

1 Base layer	Floor coverings with/ without reinforcement element			Possible construction underneath the base layer / underfloor heating			
		2 Additional		3 Footfall impact sound insulation / underfloor heating (Total thickness)	4 Cover board required on bulk leveller	5 Equalization layer / Insulation for levelling on basic floor	
At least	Without	Vidiwall 1Mann 12.5	Brio 23	Maximum		Maximum	Line
Brio 23 WF							
	A, B		**A, B**	–	–	–	68
	–		**A, B**	–	–	Dry bulk leveller PA 20 - 60 mm	69
	–		**A, B**	–	–	Brio Schüttung dB 15 - 60 mm or Siliperl® 10 - 60 mm	70
	–		**A, B**	–	Vidiwall 1Mann 12.5	Brio Schüttung dB 15 - 60 mm or Siliperl® 10 - 60 mm	71
	A		**A, B**	Wood fibre insulation board WF 10 mm	–	–	72

Surface / floor covering

A Without or with standard floor coverings including stoneware tiles, edge length ≤ 33 cm, thickness ≥ 9 mm

B Stoneware tiles, edge length > 33 cm to 60 cm, thickness ≥ 9 mm or natural stone edge length ≤ 60 cm, thickness ≥ 10 mm

C Stoneware tiles, edge length > 60 cm to 120 cm, thickness ≥ 9 mm or natural stone edge length ≤ 120 cm, thickness ≥ 20 mm

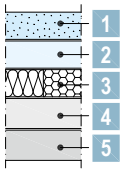
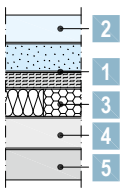
Usages and application areas Examples following DIN EN 1991-1-1/NA:2010-12

Line	Usage and examples	Single load	Area load
2	Corridors in office buildings, office areas, doctors surgeries without heavy equipment, waiting rooms, lounges including the corridors, areas in sales rooms up to 50 m^2 in residential, office and comparable buildings	**2 kN**	**2 kN/m^2**
	Office areas with higher loads	**2 kN**	**3 kN/m^2**

Notes

- Floor coverings category **B** or **C** are only permissible with maximum ceiling deflection ≤ l/500.
- The load capacity of the floor slab/ceiling must be sufficient at all points. For equalization of minor unevenness on the substrate it is recommended that you use levelling and equalization compounds on a suitable primer.
- **Equalization layers made of lightweight levelling mortars such as S 400 Sprint and EPO-Leicht can generally be used under all of the mentioned constructions. The possible carrying capacity is not reduced as a result.**
- Constructions for higher load capacities on request.

Floor constructions Brio 18 – usages and application areas line 3 – point load 3 kN

1 Base layer	Floor coverings with/ without reinforcement element			Possible construction underneath the base layer / underfloor heating			
		2 Additional		3 Footfall impact sound insulation / underfloor heating (Total thickness)	4 Cover board required on bulk leveller	5 Equalization layer / Insulation for levelling on basic floor	
At least	Without	Vidiwall 1Mann 10	Brio 18	Maximum		Maximum	Line
Brio 18							
	A	A	A	–	–	Fasoperl®-A8 or fleece layer	73
	–	A	A	–	–	Dry bulk leveller PA 20 - 60 mm	74
	A	A	A	–	Fasoperl®-A8[1)]	Brio Schüttung dB 15 - 100 mm or Siliperl® 10 - 100 mm	75
	–	A	A	–	–	EPS DEO > 100 kPa single-/double-layer ≤ 40 mm	76
	–	–	A	–	–	EPS DEO > 100 kPa single-/double-layer ≤ 60 mm	77
	–	–	A	–	–	EPS DEO > 150 kPa single-/double-layer ≤ 60 mm	78
	–	–	A	–	–	EPS DEO > 200 kPa single-/double-layer ≤ 100 mm	79
	A	A	A	Wood fibre insulation board WF 10 mm	–	–	80
	A	A	A	Wood fibre insulation WF 10 mm	Fasoperl®-A8[1)]	Brio Schüttung dB 15 - 100 mm or Siliperl® 10 - 100 mm	81
	–	–	A	Uponor Siccus 25 mm	–	–	82
Brio 18 WF							
	A		A	–	–	–	83
	A		A	–	Fasoperl®-A8[1)]	Brio Schüttung dB 15 - 100 mm or Siliperl® 10 - 100 mm	84

1) Up to 60 mm bulk leveller can be applied with Siliperl® even without Fasoperl®-A8. The necessary compaction is undertaken when walking during screed application

Surface / floor covering

A Without or with standard floor coverings including stoneware tiles, edge length ≤ 33 cm, thickness ≥ 9 mm

B Stoneware tiles, edge length > 33 cm to 60 cm, thickness ≥ 9 mm or natural stone edge length ≤ 60 cm, thickness ≥ 10 mm

C Stoneware tiles, edge length > 60 cm to 120 cm, thickness ≥ 9 mm or natural stone edge length ≤ 120 cm, thickness ≥ 20 mm

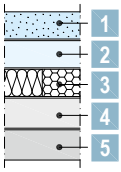
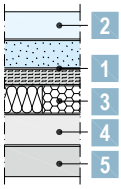
Usages and application areas Examples following DIN EN 1991-1-1/NA:2010-12

Line	Usage and examples	Single load	Area load
3	Corridors and kitchens in hospitals, hotels, retirement homes, boarding schools etc.; treatment rooms in hospitals including surgery rooms without heavy equipment; cellars in residential buildings	3 kN	3 kN/m²
	Areas with tables, e.g. crèches, day nurseries, classrooms, cafes, restaurants, dining halls, reading rooms, reception rooms, staff rooms (assignment of loads divergent to DIN EN 1991-1-1/NA:2010-12)	3 kN	4 kN/m²

Notes

- The load capacity of the floor slab/ceiling must be sufficient at all points. For equalization of minor unevenness on the substrate it is recommended that you use levelling and equalization compounds on a suitable primer.
- **Equalization layers made of lightweight levelling mortars such as S 400 Sprint and EPO-Leicht can generally be used under all of the mentioned constructions. The possible carrying capacity is not reduced as a result.**
- Constructions for higher load capacities on request.
- Constructions with floor coverings of category **B** or **C** on request.

Floor constructions Brio 23 – usages and application areas line 3 – point load 3 kN

1 Base layer	Floor coverings with / without reinforcement element			Possible construction underneath the base layer / underfloor heating			
		2 Additional		3 Footfall impact sound insulation / underfloor heating (Total thickness)	4 Cover board required on bulk leveller	5 Equalization layer / Insulation for levelling on basic floor	
At least	Without	Vidiwall 1Mann 12.5	Brio 23	Maximum		Maximum	Line
Brio 23							
	A	A	A	–	–	Fasoperl®-A8 or fleece layer	85
	A	A	A	–	–	Dry bulk leveller PA 20 - 60 mm	86
	A	A	A	–	Fasoperl®-A8[1)]	Brio Schüttung dB 15 - 100 mm or Siliperl® 10 - 100 mm	87
	–	A	A	–	–	EPS DEO > 100 kPa single-/double-layer ≤ 60 mm	88
	–	A	A	–	–	EPS DEO > 150 kPa single-/double-layer ≤ 60 mm	89
	A	A	A	–	–	EPS DEO > 200 kPa single-/double-layer ≤ 60 mm	90
	–	A	A	–	–	EPS DEO > 200 kPa single-/double-layer ≤ 100 mm	91
	A	A	A	–	–	Styrodur XPS 4000 CS single-/double-layer ≤ 100 mm	92
	A	A	A	Wood fibre insulation WF 10 mm	–	–	93
	A	A	A	2x Wood fibre insulation WF 10 mm	–	–	94
	–	–	A	Footfall sound insulation TP-GP 12-1	–	–	95
	A	A	A	Wood fibre insulation WF 10 mm	Fasoperl®-A8[1)]	Brio Schüttung dB 15 - 100 mm or Siliperl® 10 - 100 mm	96
	–	A	A	Uponor Siccus 25 mm	–	–	97
Brio 23 WF							
	A		A	–	–	–	98
	A		A	Wood fibre insulation WF 10 mm	–	–	99
	A		A	–	Fasoperl®-A8[1)]	Brio Schüttung dB 15 - 100 mm or Siliperl® 10 - 100 mm	100

1) Up to 60 mm bulk leveller can be applied with Siliperl® even without Fasoperl®-A8. The necessary compaction is undertaken when walking during screed application

Surface / floor covering

A Without or with standard floor coverings including stoneware tiles, edge length ≤ 33 cm, thickness ≥ 9 mm

B Stoneware tiles, edge length > 33 cm to 60 cm, thickness ≥ 9 mm or natural stone edge length ≤ 60 cm, thickness ≥ 10 mm

C Stoneware tiles, edge length > 60 cm to 120 cm, thickness ≥ 9 mm or natural stone edge length ≤ 120 cm, thickness ≥ 20 mm

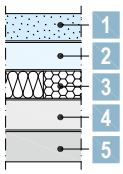
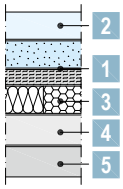
Usages and application areas Examples following DIN EN 1991-1-1/NA:2010-12

Line	Usage and examples	Single load	Area load
3	Corridors and kitchens in hospitals, hotels, retirement homes, boarding schools etc.; treatment rooms in hospitals including surgery rooms without heavy equipment; cellars in residential buildings	3 kN	3 kN/m²
	Areas with tables, e.g. crèches, day nurseries, classrooms, cafes, restaurants, dining halls, reading rooms, reception rooms, staff rooms (assignment of loads divergent to DIN EN 1991-1-1/NA:2010-12)	3 kN	4 kN/m²

Notes

- The load capacity of the floor slab/ceiling must be sufficient at all points. For equalization of minor unevenness on the substrate it is recommended that you use levelling and equalization compounds on a suitable primer.
- **Equalization layers made of lightweight levelling mortars such as S 400 Sprint and EPO-Leicht can generally be used under all of the mentioned constructions. The possible carrying capacity is not reduced as a result.**
- Constructions for higher load capacities on request.
- Constructions with floor coverings of category **B** or **C** on request.

Floor constructions Brio 18 – usages and application areas line 4 – point load 4 kN

1 Base layer	Floor coverings with/ without reinforcement element			Possible construction underneath the base layer / underfloor heating			
		2 Additional		3 Footfall impact sound insulation / underfloor heating (Total thickness)	4 Cover board required on bulk leveller	5 Equalization layer / Insulation for levelling on basic floor	
At least	Without	Vidiwall 1Mann 10	Brio 18	Maximum		Maximum	Line
Brio 18							
	–	–	A	–	–	Fasoperl®-A8 or fleece layer	101
	–	–	A	–	–	Dry bulk leveller PA 20 - 60 mm	102
	–	–	A	–	Fasoperl®-A8[1)]	Brio Schüttung dB 15 - 100 mm or Siliperl® 10 - 100 mm	103
	–	–	A	Wood fibre insulation board WF 10 mm	–	–	104
	–	–	A	2x Wood fibre insulation board WF 10 mm	–	–	105
	–	–	A	–	–	EPS DEO > 200 kPa single-/double-layer ≤ 60 mm	106
	–	–	A	–	–	Styrodur XPS 4000 CS single-/double-layer ≤ 100 mm	107
Brio 18 WF							
	–		A	–	–	–	108
	–		A	Wood fibre insulation board WF 10 mm	–	–	109

1) Up to 60 mm bulk leveller can be applied with Siliperl® even without Fasoperl®-A8. The necessary compaction is undertaken when walking during screed application

Surface / floor covering

A Without or with standard floor coverings including stoneware tiles, edge length ≤ 33 cm, thickness ≥ 9 mm

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C Stoneware tiles, edge length > 60 cm to 120 cm, thickness ≥ 9 mm or natural stone edge length ≤ 120 cm, thickness ≥ 20 mm

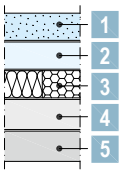
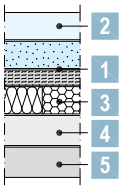
Usages and application areas Examples following DIN EN 1991-1-1/NA:2010-12

Line	Usage and examples	Single load	Area load
4	Areas with fixed seating, e.g. surfaces in churches, theatres or cinemas, congress rooms, auditoria, waiting rooms	**4 kN**	**4 kN/m²**
	Offices, working spaces and corridors with heavy equipment freely walkable areas, e.g. museum and exhibition areas, entrance areas in public buildings and hotels as well as the corridors in line 3 areas where large groups of people meet, e.g. in buildings such as concert halls, terraces and entrance areas; areas in retail stores and department stores areas in factories and light-duty workshops (dead loads)	**4 kN**	**5 kN/m²**

Notes

- The load capacity of the floor slab/ceiling must be sufficient at all points. For equalization of minor unevenness on the substrate it is recommended that you use levelling and equalization compounds on a suitable primer.
- **Equalization layers made of lightweight levelling mortars such as S 400 Sprint and EPO-Leicht can generally be used under all of the mentioned constructions. The possible carrying capacity is not reduced as a result.**
- Constructions for higher load capacities on request.
- Constructions with floor coverings of category **B** or **C** on request.

Floor constructions Brio 23 – usages and application areas line 4 – point load 4 kN

1 Base layer At least	Floor coverings with/ without reinforcement element 2 Additional Without	Vidiwall 1Mann 12.5	Brio 23	Possible construction underneath the base layer / underfloor heating 3 Footfall impact sound insulation / underfloor heating (Total thickness) Maximum	4 Cover board required on bulk leveller	5 Equalization layer / insulation for levelling on basic floor Maximum	Line
Brio 23							
	–	A	A	–	–	Fasoperl®-A8 or fleece layer	110
	–	A	A	–	–	Dry bulk leveller PA 20 - 60 mm	111
	–	A	A	–	Fasoperl®-A8	Brio Schüttung dB 15 - 60 mm or Siliperl® 10 - 60 mm	112
	–	–	A	–	Fasoperl®-A8	Brio Schüttung dB 60 - 100 mm or Siliperl® 60 - 100 mm	113
	–	–	A	–	–	EPS DEO > 100 kPa single-/double-layer ≤ 40 mm	114
	–	A	A	Wood fibre insulation board WF 10 mm	–	–	115
	–	A	A	2x Wood fibre insulation board WF 10 mm	–	–	116
	–	–	A	Uponor Siccus 25 mm	–	–	117
Brio 23 WF							
	–		A	–	–	–	118
	–		A	Wood fibre insulation board WF 10 mm	–	–	119

Surface / floor covering

A Without or with standard floor coverings including stoneware tiles, edge length ≤ 33 cm, thickness ≥ 9 mm

B Stoneware tiles, edge length > 33 cm to 60 cm, thickness ≥ 9 mm or natural stone edge length ≤ 60 cm, thickness ≥ 10 mm

C Stoneware tiles, edge length > 60 cm to 120 cm, thickness ≥ 9 mm or natural stone edge length ≤ 120 cm, thickness ≥ 20 mm

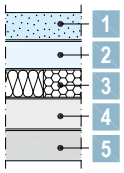
Usages and application areas Examples following DIN EN 1991-1-1/NA:2010-12

Line	Usage and examples	Single load	Area load
4	Areas with fixed seating, e.g. surfaces in churches, theatres or cinemas, congress rooms, auditoria, waiting rooms	**4 kN**	**4 kN/m²**
	Offices, working spaces and corridors with heavy equipment. freely walkable areas, e.g. museum and exhibition areas, entrance areas in public buildings and hotels as well as the corridors in line 3 Areas where large groups of people meet, e.g. in buildings such as concert halls and entrance areas; areas in retail stores and department stores areas in factories and light-duty workshops (dead loads)	**4 kN**	**5 kN/m²**

Notes

- The load capacity of the floor slab/ceiling must be sufficient at all points. For equalization of minor unevenness on the substrate it is recommended that you use levelling and equalization compounds on a suitable primer.
- **Equalization layers made of lightweight levelling mortars such as S 400 Sprint and EPO-Leicht can generally be used under all of the mentioned constructions. The possible carrying capacity is not reduced as a result.**
- Constructions for higher load capacities on request.
- Constructions with floor coverings of category **B** or **C** on request.

Floor constructions Brio 18 – usages and application areas line 5 – point load 5 kN

1 Base layer	Floor coverings with / without reinforcement element			Possible construction underneath the base layer / underfloor heating			
		2 Additional		3 Footfall impact sound insulation / underfloor heating (Total thickness)	4 Cover board required on bulk leveller	5 Equalization layer / insulation for levelling on basic floor	
At least	Without	Vidiwall 1Mann 10	Brio 18	Maximum		Maximum	Line
Brio 18							
	–	–	A	–	–	Brio Schüttung dB 15 - 60 mm or Siliperl® 10 - 60 mm	120

Surface / floor covering

A Without or with standard floor coverings including stoneware tiles, edge length ≤ 33 cm, thickness ≥ 9 mm

B Stoneware tiles, edge length > 33 cm to 60 cm, thickness ≥ 9 mm or natural stone edge length ≤ 60 cm, thickness ≥ 10 mm

C Stoneware tiles, edge length > 60 cm to 120 cm, thickness ≥ 9 mm or natural stone edge length ≤ 120 cm, thickness ≥ 20 mm

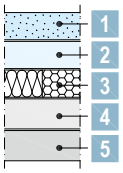
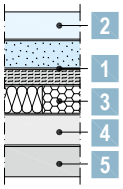
Usages and application areas Examples following DIN EN 1991-1-1/NA:2010-12

Line	Usage and examples	Single load	Area load
5	Offices, working spaces and corridors with heavy equipment. freely walkable areas, e.g. museum and exhibition areas, entrance areas in public buildings and hotels as well as the corridors in line 3 Areas where large groups of people meet, e.g. in buildings such as concert halls and entrance areas; areas in retail stores and department stores areas in factories and light-duty workshops (dead loads)	**5 kN**	**5 kN/m²**

Notes

- The load capacity of the floor slab/ceiling must be sufficient at all points. For equalization of minor unevenness on the substrate it is recommended that you use levelling and equalization compounds on a suitable primer.
- **Equalization layers made of lightweight levelling mortars such as S 400 Sprint and EPO-Leicht can generally be used under all of the mentioned constructions. The possible carrying capacity is not reduced as a result.**
- Constructions for higher load capacities on request.
- Constructions with floor coverings of category **B** or **C** on request.

Floor constructions Brio 23 – usages and application areas line 5 – point load 5 kN

1 Base layer	Floor coverings with / without reinforcement element			Possible construction underneath the base layer / underfloor heating			
		2 Additional		3 Footfall impact sound insulation / underfloor heating (Total thickness)	4 Cover board required on bulk leveller	5 Equalization layer / insulation for levelling on basic floor	
At least	Without	Vidiwall 1Mann 12.5	Brio 23	Maximum		Maximum	Line
Brio 23							
	–	A	A	–	–	Fasoperl®-A8 or fleece layer	121
	–	–	A	–	–	Brio Schüttung dB 15 - 60 mm or Siliperl® 10 - 60 mm	122
	–	–	A	–	–	EPS DEO > 200 kPa single-/double-layer ≤ 60 mm	123
	–	–	A	–	–	Styrodur XPS 4000 CS single-/double-layer ≤ 100 mm	124
Brio 23 WF							
	–		A	–	–	–	125
	–		A	–	–	Brio Schüttung dB 15 - 60 mm or Siliperl® 10 - 60 mm	126
	–		A	–	–	Dry bulk leveller PA 20 - 60 mm	127

Surface / floor covering

A Without or with standard floor coverings including stoneware tiles, edge length ≤ 33 cm, thickness ≥ 9 mm

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Usages and application areas Examples following DIN EN 1991-1-1/NA:2010-12

Line	Usage and examples	Single load	Area load
5	Offices, working spaces and corridors with heavy equipment. freely walkable areas, e.g. museum and exhibition areas, entrance areas in public buildings and hotels as well as the corridors in line 3 Areas where large groups of people meet, e.g. in buildings such as concert halls and entrance areas; areas in retail stores and department stores Areas in factories and light-duty workshops (dead loads)	**5 kN**	**5 kN/m²**

Notes

- The load capacity of the floor slab/ceiling must be sufficient at all points. For equalization of minor unevenness on the substrate it is recommended that you use levelling and equalization compounds on a suitable primer.
- **Equalization layers made of lightweight levelling mortars such as S 400 Sprint and EPO-Leicht can generally be used under all of the mentioned constructions. The possible carrying capacity is not reduced as a result.**
- Constructions for higher load capacities on request.
- Constructions with floor coverings of category **B** or **C** on request.

Levelling layers and insulation layers

Levelling layers and insulation layers underneath the base substrate / underfloor heating

EPS / XPS

- EPS DEO acc. to DIN 4108-10
- Footfall sound insulation boards EPS DES are not suitable
- Single / double-layer application possible. In case of double-layer application the total thickness of the specified maximum insulation layer thickness may not be exceeded.

Mineral wool MW

- Only use boards that the mineral wool manufacturer has indicated as suitable for gypsum based pre-fab floor screed.
- Only apply a single-layer of MW footfall sound insulation.
- General compressibility ≤ 1 mm, e.g. TP-GP 12-1 / 20-1. With Knauf Insulation Trittschall-Dämmplatte TPE 12-2, 2 mm compressibility is also possible.

Wood fibre insulation board

- Wood fibre insulation board WF and Fasoperl®-A8

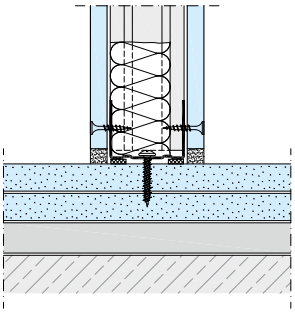
Mechanically bonded bulk leveller

- Trockenschüttung PA dry bulk leveller, Brio Schüttung dB and Siliperl® may not be installed in rooms subject to dynamic loads such as those from washing machines, tumbler driers or similar.
- Bituperl® and Nivoperl® can be used even when under dynamic loads in residential applications too such as washing machines or similar.

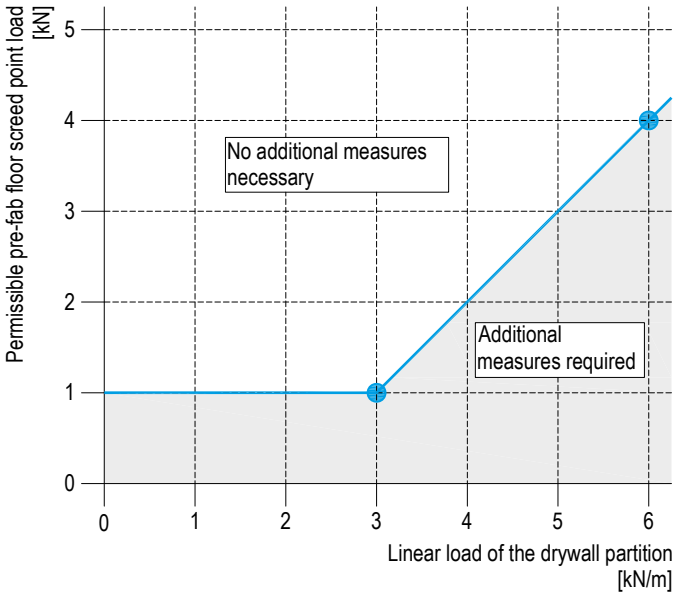
Light levelling mortar

- EPO-Leicht and S 400 Sprint can be used even when under dynamic loads in residential applications too such as washing machines or similar.

Light partitions on Knauf Pre-Fab Floor Screed



Conversion of wall load per unit length into a pre-fab floor screed load class



- On Knauf Pre-Fab Floor Screeds, the drywall partitions can be positioned with a load per unit length, which complies with the point load of the Brio + 2.0 kN, at every position on the floor without the need for additional measures.
- Drywall partitions with a load per unit length of more than the value of the point load of the Brio + 2.0 kN can be installed after an increase in the load capacity of the pre-fab floor screed.
- With loads greater than the previously stated expected loads of partitions or cantilever loads, the Brio supporting layer thicknesses must be increased and/or foundations with a higher load capacity must be installed.
- It is beneficial to install the partitions directly on the basic floor due to the better sound insulation and stability of the construction.
- It is recommended that partitions are not installed on pre-fab floor screed with underfloor heating due to temperature-based expansion.
- Refer to the data sheets of the individual lightweight Knauf partition systems for the specifications of the weights.

Example

Floor structures:

- 1x Brio 18 on 30 mm Trockenschüttung PA dry bulk leveller

Lightweight partitions, metal stud partition W112.de:

- CW 75, cladding 2x 12.5 mm Diamant GKFI
- Weight without insulation layer approx. 56 kg/m²
  (see system data sheet Knauf Metal Stud Partitions W11.de)
- Wall height 3.00 m

1) Determination

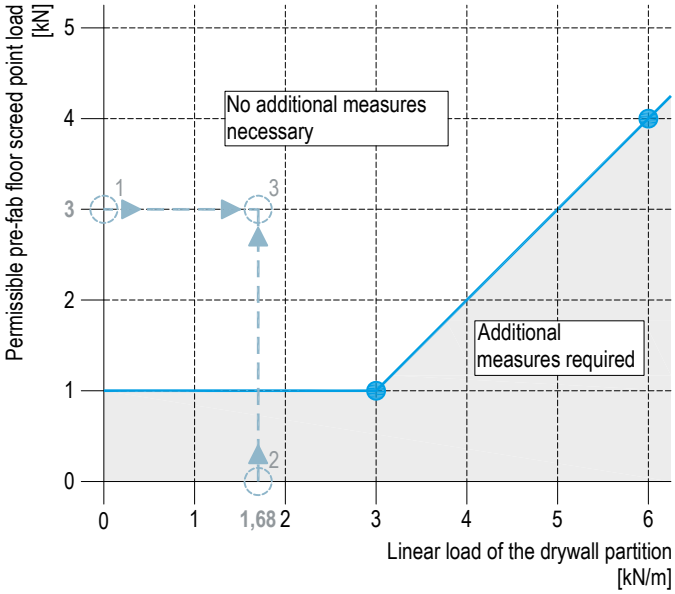
- **Permissible point load of pre-fab floor screed**

  Point load or single load (see page 13, line 2) → 1 kN
  1 kN single load + 2 kN → 3 kN (1)

- **Linear distributed load of the drywall partition**

  56 kg/m² x 3.00 m wall height → 168 kg/m²
  168 kg/m² → 1.68 kN/m (2)

2) Read off value



3) Result:

(3) **No additional measures necessary**

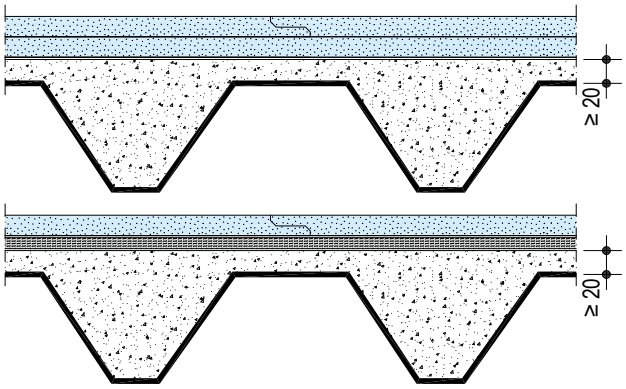
Floor constructions on trapezoiodal metal sheet

Scheme drawings I Dimensions in mm

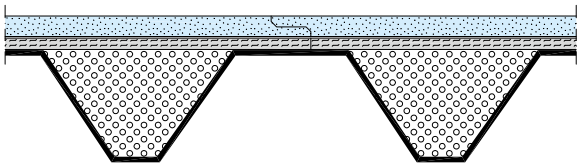
Floor construction on trapezoiodal metal sheet with/without filled corrugations

In case of application on trapezoidal metal sheet, the corrugations should normally be filled with a stable and substantial material or covered with a suitable board.

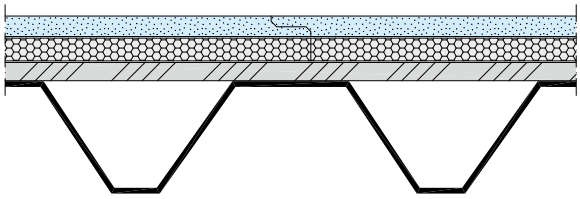
- With Dry Bulk Leveller PA: min. 20 mm above top of trapezoidal sheets



- With EPO-Leicht: Fill at least up to top of trapezoidal sheets

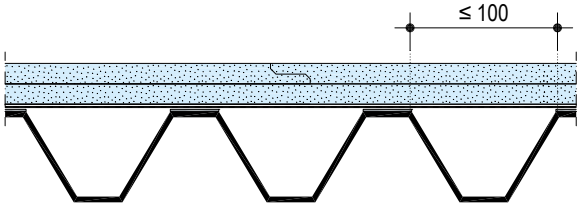


- Cover trapezoidal sheets with a bridging wooden board or GIFAfloor (non-combustible)



On trapezoid metal sheets with top spacing ≤ 100 mm, filling or bridging the corrugations can be omitted.

- Glue Knauf Integral support insulation strips onto trapezoid sheet metal and cover with fleece
- No insulation layers permissible between trapezoid metal sheet and pre-fab floor screed
- Laying of the Brio elements laterally to the corrugations



Caution	The trapezoid metal sheets must be rated to the necessary carrying capacity for the expected / planned loads at every point.

General notes on fire resistance

The values in the following tables on page 30 and 31 apply for single-sided exposure to fire from the top side of the ceiling. The specified supporting layer thickness is the required minimum thickness for fire resistance. Larger screed thicknesses that are structurally necessary must be considered.

The sequence of the layers required for fire protection listed in the tables on page 30 and 31 is mandatory.
Fire resistance permissible intermediate layers, with the exception of sheet metal in the tables on page 30 and 31 can also be additionally arranged between the necessary layers.

- Non-combustible building materials for example are:
  Mineral fillers, Knauf boards (GKB/GKF/Vidiwall), Trockenschüttung PA dry bulk leveller., Brio Schüttung dB, Siliperl® and S 400 Sprint.
- Flammable building materials for example are:
  Wood fibre (WF or cementitious lightweight wood wool), ≤ 60 mm EPS/XPS with/without underfloor heating, EPO-Leicht.

Note	EPS/XPS is only permissible up to a total thickness of 60 mm; EPO-Leicht up to a total thickness of 80 mm (with trapezoid sheet metal the depths of the corrugations are not included).

- ≤ 5 mm separating layers for example are:
  Knauf Schrenzlage, Knauf Integral Auflagerdämmstreifen support insulation strips, Malervlies fleece layer, Wellpappe corrugated cardboard, PE foil, …

Construction

- Brio should be aligned and applied with a minimum 500 / 200 mm joint stagger plus joint offset, joints and screw heads / staple backs must be filled with Uniflott.
- Bonding of the rebates with Brio Joint Adhesive or Knauf Weissleim glue), fastening of the rebates with Knauf gypsum fibre screws
- On trapezoid metal sheets with top spacing ≤ 100 mm, filling corrugations with a stable and substantial material can be

Edge design

- Edge insulation strips: Building material class A, me… 1000 °C, density ≥ 90 kg/m³ (e.g. Knauf edge insulation st… mineral wool).

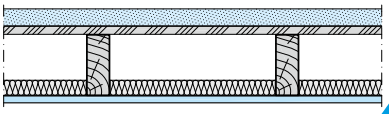
Layers above the base substrate

- Above Brio constructions with a fire resis… ification, either a thin-layer underfloor heating system (e… Minitec) with N 440 or alternatively and additional Brio h… for accepting special cut heating pipe grooves can be inst…
- Standard floor coverings such… -fab floor screed constructions can be applied.

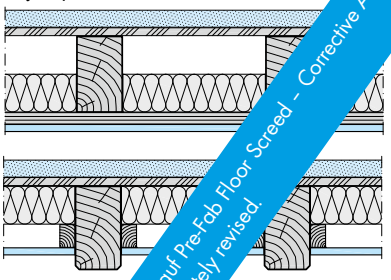
Basic ceilings ceiling of type IV (wood joist ceilings)

- New building
- Fully gutted
- Partly gutted

Ceilings made of wooden panels acc. to EN 1995-1-1, al… consisting of upper and lower cladding on the timber beams



Wood joist ceilings acc. to EN 1995-1-1 w… , partly exposed and fully exposed wooden beams.



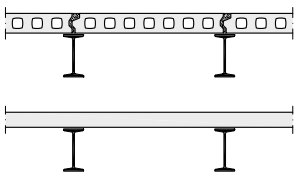
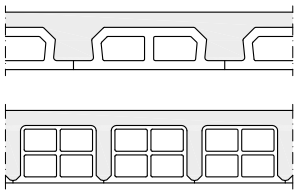
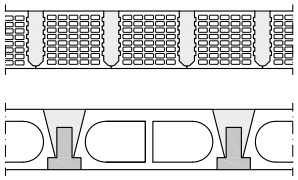
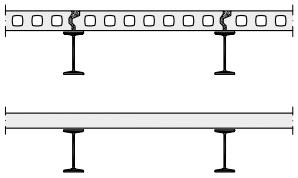
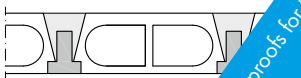
The follow… …ally applies to ceilings made of wood:

Wood joist… timber beams must be made of converted timber or finger-jo… beams of grading strength S10 acc. to DIN 4074-1.
Naile… …ses not permissible with fire protection requirements.

Th… …g materials can be used as top side cladding both for wood joist … as well as for ceilings made of wooden panels:
…board N+F, t ≥ 19 mm, acc. to DIN EN 312
…ngued-and-grooved planks made of softwood, t ≥ 21 mm, acc. to … DIN 4072

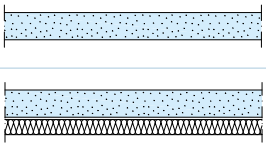
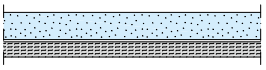
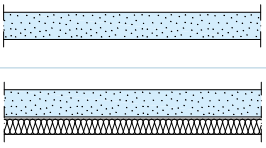
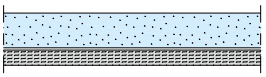
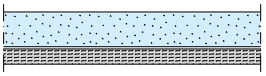
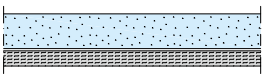
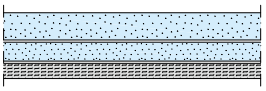
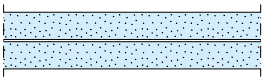
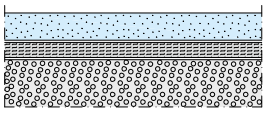
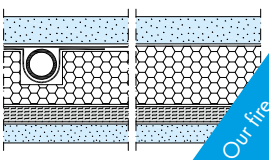
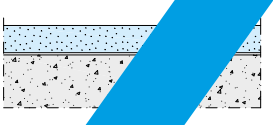
Note	Individual electrical cables may be laid in the plenum provided that they are used exclusively for the supply of power to the rooms, corridors or halls. The penetration of the cladding or lining must be sealed completely with gypsum.

Basic ceilings of type I to III

Ceiling type I	
	Ceilings with exposed steel beams in the plenum area with an A_P/V ratio ≤ 300 m^{-1} and an upper cover of pumice concrete hollow core planks or aerated concrete slabs
	Ribbed concrete cover with filler joists made of light concrete or bricks
	Reinforced concrete joist ceilings with filler joists made of light concrete or bricks
	Reinforced concrete ceiling in conjunction with steel beams embedded in concrete
Ceiling type II	
	Ceilings with exposed steel beams in the plenum area with an A_P/V ratio ≤ 300 m^{-1} and an upper cov… of in-situ concrete or prefabrica… boards with structurally activ… concrete layer or perfabri… made of hollow core pl… of steel or reinforced a… sed concrete
Ceiling type III	
Ceilings made of reinforced concrete or prestre… ete slabs made of standard concrete, however not with comp… iller joists made of light concrete or bricks	
	R… ncrete or prestressed …abs made of standard …
	…forced concrete joist ceilings …h beams and filler joists made of standard concrete
	Two-way flat slab ceiling and dropped ceiling made of standard concrete
	Reinforced concrete or prestressed concrete hollow core slabs
	Ribbed concrete cover without filler joists or with filler joists made of normal concrete

Fire resistance

Fire resistance in conjunction with wood joist ceilings (construction type IV)

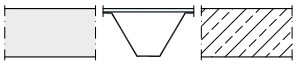
Flooring design Scheme drawings	Fire resistance class	Knauf Pre-Fab Floor Screed floor construction Base layer Required min. thickness for fire resistance	Construction underneath the base layer for fire protection Required (from top to bottom)	Permissible intermediate l (see also page 28)
F126.de / F127.de / F128B.de Knauf Pre-Fab Floor Screed				
	F30 plus	**Brio 18**	–	Non-combust g materials and/or ≤ 5 mm layers and/o ≤ 6 mable building material
		Brio 18 MW	–	
	F60	**Brio 18 WF**	–	
	F60 plus	**Brio 18**	–	n-combustible building materials and/or ≤ 5 mm separating layers and/or ≤ 60 mm flammable building material
		Brio 18 MW	–	
	F90	**Brio 23 WF** [1]	–	None
		**Brio 23** [1]	≥ 10 mm Kn	None
	F90 plus	**Brio 23**	≥ 10 WF	Non-combustible building materials
		**Brio 18**	Knauf Vidiwall 1Mann 0 mm Knauf WF	Non-combustible building materials
		**2x Brio**	–	Non-combustible building materials
		**Brio 18**	≥ 10 mm Knauf WF on ≥ 60 mm EPO-Leicht (max. 80 mm)	Non-combus-tible materials and/or ≤ 5 mm separating layers and/or ≤ 60 mm flammable building material
		**Brio 18**	≤ 60 mm EPS/XPS with/without underfloor heating on ≥ 10 mm Knauf WF on 12.5 mm Knauf Vidiwall 1Mann	Non-combus-tible materials and/or ≤ 5 mm separating layers and/or ≤ 60 mm flammable building material
		**Brio 18**	≥ 40 mm Trockenschüttung PA dry bulk leveller	Non-combus-tible materials and/or ≤ 5 mm separating layers and/or ≤ 60 mm flammable building material

1) *For ra resistance class F90, on the lower side of the ceiling construction with fire exposure from above, additional covering is required consisting of at least w oden battens (width x thickness ≥ 50 mm x 30 mm, axial spacing ≤ 400 mm) and Knauf Fire-Resistant Board GKF t ≥ 12.5 mm.*

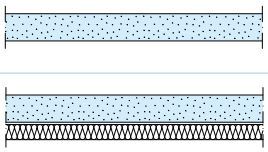
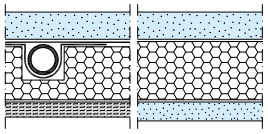
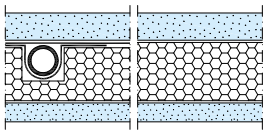
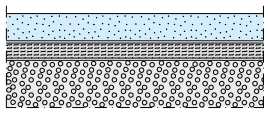
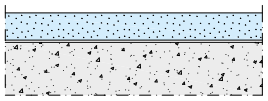
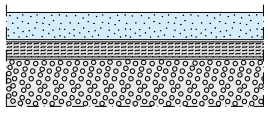
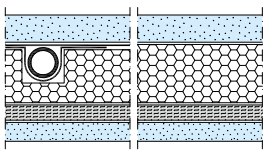
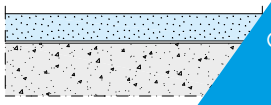
Notes

plus Extension of the fire resistance Proof of Usability see page 51.

Observe the notes on page 50.



Fire resistance on solid ceilings (construction types I-III)/trapezoid sheet metal roofs/other standard ceilings

Flooring design Scheme drawings	Fire resistance class	Knauf Pre-Fab Floor Screed floor construction Base layer Required min. thickness for fire resistance	Construction underneath the base layer for fire protection Required (from top to bottom)	Permissible intermediate la (see also page 28)
F126.de / F127.de / F128B.de Knauf Pre-Fab Floor Screed				
	F30 plus	**Brio 18**	–	Non-combustibl materials and/or ≤ 5 mm se yers and/or ≤ 60 able building material
		Brio 18 MW	–	
	F60 plus	**Brio 18**	≤ 60 mm EPS with / without underfloor heating on 12.5 mm Knauf Vidiwall 1Mann or on ≥ 10 mm Knauf WF	N tible building materials separating layers or 10 mm Knauf WF
		**Brio 18**	≤ 60 mm XPS with/without und heating on 12.5 mm Knauf Vidiwall 1	Non-combustible materials and/or ≤ 5 mm separating layers and/or ≥ 10 mm Knauf WF
		**Brio 18**	≥ 10 mm Knauf W on ≥ 60 mm EP max. 80 mm)	Non-combustible materials and/or ≤ 5 mm separating layers and/or ≥ 10 mm Knauf WF
		**Brio 18**	≥ ckenschüttung PA dry bulk	Non-combustible materials and/or ≤ 5 mm separating layers and/or ≤ 60 mm flammable building material
	F90 plus	**Brio 18**	10 mm Knauf WF on ≥ 60 mm EPO-Leicht (max. 80 mm)	Non-combus-tible materials and/or ≤ 5 mm separating layers / ≤ 60 mm flammable building material
		**Brio 18**	≤ 60 mm EPS/XPS with/without underfloor heating on ≥ 10 mm Knauf WF on 12.5 mm Knauf Vidiwall 1Mann	Non-combus-tible materials and/or ≤ 5 mm separating layers / ≤ 60 mm flammable building material
		**Brio 18**	≥ 40 mm Trockenschüttung PA dry bulk leveller	Non-combus-tible materials and/or ≤ 5 mm separating layers / ≤ 60 mm flammable building material

Our fire protection proofs for the fire resistance classes F30 to F90 had to be adjusted. Please refer to the attached document Knauf Pre-Fab Floor Screed – Corrective Actions F12-E01_TB.de until the tables with the currently valid fire protection certificates have been completely revised.

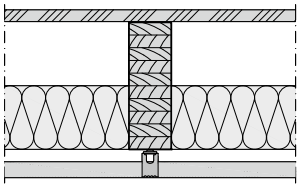
Notes

plus Extension of the fire resistance Proof of Usability see page 51.

Observe the notes on page 50.

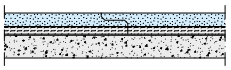
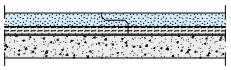
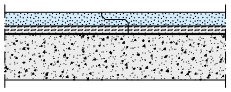
Sound insulation on wood joist ceilings

Test configuration – wood joist ceiling A – light sound board



Floor construction:	See tables
Chipboard:	22 mm
Wooden joists (structural timber):	80 x 240 mm, axial spacing 625 mm
Insulation / sound boarding between the joists:	120 mm (Knauf Insulation UNIFIT TI 135U)
Suspender / type of grid:	Damping Universal Bracket with wood joist 50 x 30 mm or profile CD 60/27 Axial spacing b = 500 mm or 400 mm (Silentboard)
Suspension height:	approx. 55 mm

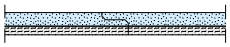
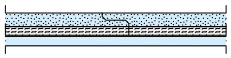
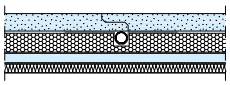
Pre-Fab Floor screed – weighted sound reduction index and normalized impact sound pressure level (without flanking path)

Basic ceiling Measured values: R_w = 27.2 dB $L_{n,w}$ = 90.0 dB *(Measured values without mineral wool between the ceiling joists, without suspended ceiling)*	**Floor construction - pre-fab floor screed** ■ 1x Brio 18 WF or 1x Brio 23 WF ■ 30 mm Trockenschüttung PA dry bulk leveller		■ 1x Brio 18 WF or 1x Brio 23 WF ■ 30 mm Brio Schüttung dB		■ 1x Brio 18 WF or 1x Brio 23 WF ■ 60 mm Brio Schüttung dB	
						
Ceiling lining/suspended ceiling Cladding	**R_w =** dB	**$L_{n,w}$** ($C_{I,50-2500}$) dB	**R_w** dB	**$L_{n,w}$** ($C_{I,50-2500}$) dB	**R_w** dB	**$L_{n,w}$** ($C_{I,50-2500}$) dB
12.5 mm Feuerschutzplatte Knauf Piano fire-resistant board	*64*	*53*	*64*	*51*	*66*	*48*
12.5 mm Diamant	*67.1*	*51.9* *(5.4)*	*67.5*	*49.4* *(4.7)*	*69.7*	*46.5* *(4.6)*
12.5 mm Silentboard	70.9	46.1 (8.5)	71.3	43.6 (7.3)	73.5	40.9 *(7.0)*
2x 12.5 mm Knauf Wallboard	*68.7*	*49.3* *(8.0)*	*69.2*	*46.8* *(6.6)*	*71.4*	*43.8* *(6.6)*
12.5 mm Feuerschutzplatte Knauf Piano fire-resistant board + 12.5 mm Diamant	*70*	*48*	*71*	*45*	*73*	*42*
12.5 mm Silentboard + 12.5 mm Diamant	*73.6*	*44.3* *(8.0)*	*74.0*	*41.7* *(6.8)*	*76.1*	*38.8* *(6.7)*
25 mm Solid Board	*70.4*	*48.4* *(6.6)*	*70.8*	*46.2* *(5.1)*	*73.0*	*42.3* *(6.0)*
2x 18 mm Knauf Feuerschutzplatte fire-resistant board	*73.4*	*44.3* *(7.9)*	*73.8*	*42.0* *(6.4)*	*75.8*	*38.7* *(6.7)*
25 mm Solid Board + 12.5 mm Diamant	*73.4*	*43.9* *(7.9)*	*73.9*	*41.4* *(6.6)*	*75.8*	*38.5* *(6.6)*

Values in italics: Projected values under consideration of an additional prognosis uncertainty of 1 dB.

Test configuration – wood joist ceiling A – light sound board (continued)

Pre-Fab Floor screed – weighted sound reduction index and normalized impact sound pressure level (without flanking path)

Basic ceiling Measured values: R_w = 27.2 dB $L_{n,w}$ = 90.0 dB *(Measured values without mineral wool between the ceiling joists, without suspended ceiling)*	**Floor construction - pre-fab floor screed** ■ 1x Brio 18 WF or 1x Brio 23 WF		■ 1x Brio 18 WF ■ 12.5 mm Silentboard		■ 1x Brio 23 ■ 25 mm Uponor Siccus underfloor heating ■ Vidiwall 1Mann 12.5 load distribution board ■ 12 mm Footfall sound insulation board TPE 12-2	
						
Ceiling lining/suspended ceiling Cladding	R_w = dB	$L_{n,w}$ ($C_{I,50\text{-}2500}$) dB	R_w dB	$L_{n,w}$ ($C_{I,50\text{-}2500}$) dB	R_w dB	$L_{n,w}$ ($C_{I,50\text{-}2500}$) dB
12.5 mm Feuerschutzplatte Knauf Piano fire-resistant board	*60*	*54*	–	–	*62*	*52*
12.5 mm Diamant	67.9[1)]	50.0[1)] (9.0)	–	–	*65.3*	*50.9* *(4.8)*
12.5 mm Silentboard	66.5	48.9 *(7.1)*	69.8	46.1 *(8.5)*	68.2	47.5 *(6.0)*
2x 12.5 mm Knauf Wallboard	*64.9*	*49.6* *(7.7)*	–	–	*66.6*	*48.2* *(6.4)*
12.5 mm Feuerschutzplatte Knauf Piano fire-resistant board + 12.5 mm Diamant	*67*	*48*	–	–	*68*	*46*
12.5 mm Silentboard + 12.5 mm Diamant	*70.3*	*44.7* *(7.8)*	–	–	*71.9*	*43.3* *(6.5)*
25 mm Solid Board	*66.5*	*48.8* *(6.6)*	*69.8*	*46.0* *(7.5)*	*68.3*	*46.1* *(6.4)*
2x 18 mm Knauf Feuerschutzplatte fire-resistant board	*70.1*	*44.8* *(7.8)*	*72.9*	*41.9* *(9.0)*	*71.8*	*42.3* *(7.2)*
25 mm Solid Board + 12.5 mm Diamant	*70.0*	*44.2* *(7.9)*	–	–	*71.7*	*42.7* *(6.4)*

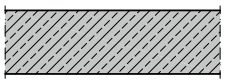
1) Measurement with divergent suspender heights of 35 mm instead of 55 mm.

Values in italics: Projected values under consideration of an additional prognosis uncertainty of 1 dB.

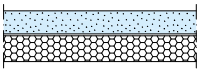
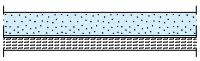
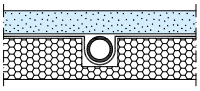
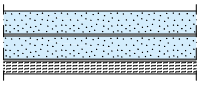
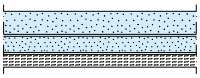
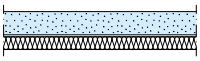
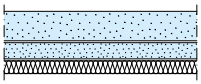
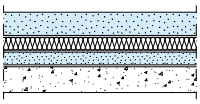
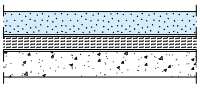
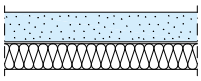
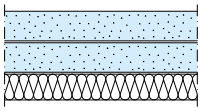
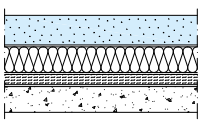
Sound insulation on solid ceilings

Reduction of impact sound pressure level Δ L_w for different constructions with Knauf Brio on solid ceilings

Basic ceiling



Reinforced concrete ceiling 140 mm,
approx. 320 kg/m²
(standard reference floor)

Flooring design	Base layer + Construction underneath the base layer	Total thickness mm	Reduction of footfall sound pressure level solid ceiling Impact sound improvement index Test value ΔL_w in dB
	■ **Brio 18** / Brio 23 ■ **20 mm EPS DEO**	38 / 43	18
	■ **Brio 18** / Brio 23 ■ **10 mm wooden fibre**	28 / 33	21
	■ **Brio 18** / Brio 23 ■ **25 mm underfloor heating type B** measured with Unipor Siccus	43 / 48	20
	■ **2x Brio 18** ■ **10 mm wooden fibre**	46	21
	■ **Brio 18 + Vidiwall 1Mann 12.5** [1] ■ **10 mm wooden fibre**	40.5	*21*
	■ **Brio 18** / Brio 23 ■ **12 mm mineral wool, s' = 70 MN/m³** measured with Knauf Insulation TP-GP 12-1	30 / 35	22
	■ **Brio 23 + Vidiwall 1Mann 12.5** [1] ■ **10 mm mineral wool, s' = 68 MN/m³** *or* Knauf Insulation TP-GP 12-1 *or* 10 mm wood fibre	45.5	*23*
	■ **Brio 18** / Brio 23 ■ **10 mm mineral wool, s' = 68 MN/m³** *or* Knauf Insulation TP-GP 12-1 ■ **Vidiwall 1Mann 10** (or 12.5) ■ **20 mm Trockenschüttung PA dry bulk leveller**	58 / 63	*24*
	■ **Brio 18** / Brio 23 ■ **10 mm wooden fibre** ■ **20 mm Trockenschüttung PA dry bulk leveller**	48 / 53	*24*
	■ **Brio 23** ■ **Knauf Insulation TPE 12-2**	35	27
	■ **2x Brio 23** ■ **20 mm mineral wool, s' = 50 MN/m³** measured with Knauf Insulation TP-GP 20-1	66	28
	■ **Brio 23** ■ **Knauf Insulation TPE 12-2** ■ **10 mm wooden fibre** ■ **20 mm Trockenschüttung PA dry bulk leveller**	65	*30*

1) Tested in unbonded state

Values represented in italics are derived values from measurements on divergent constructions.

- The specified supporting layer thickness is the required minimum thickness for sound insulation. Larger screed thicknesses that are structurally necessary must be considered.

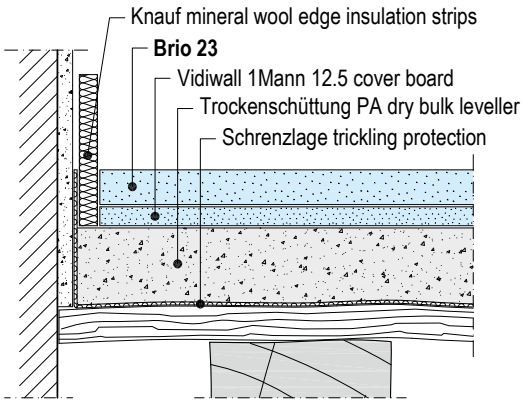
Construction details

F126.de – Pre-Fab Floor screed on a separating layer / equalization

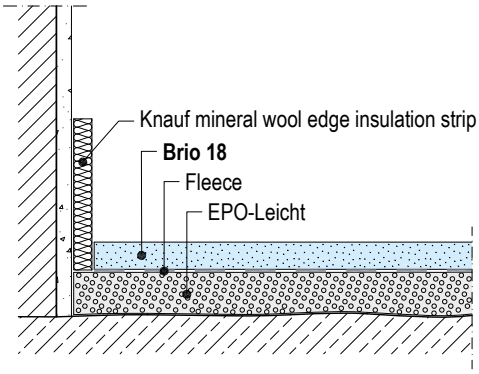
Details

Vertical section I Scale 1:5 I Dimensions in mm

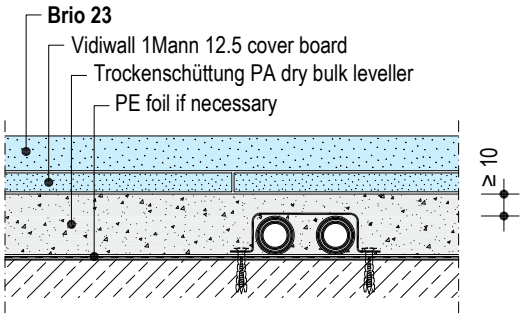
F126.de-V27 Wall connection wood joist ceiling



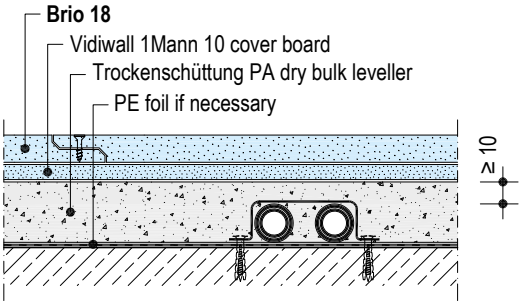
F126.de-V26 Wall connection solid ceiling



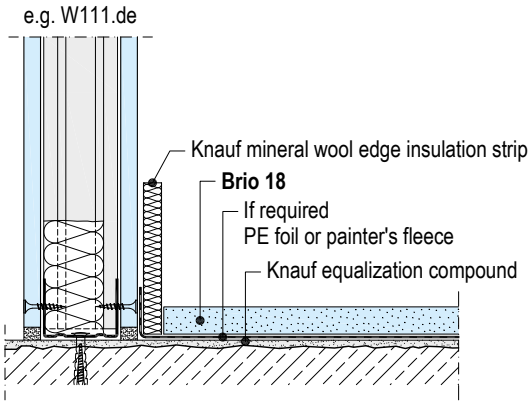
F126.de-V25 Height equalization Knauf Trockenschüttung PA dry bulk leveller



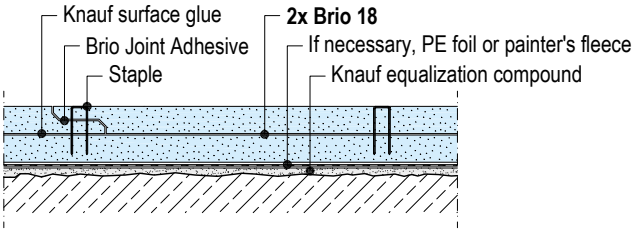
F126.de-V30 Height equalization Knauf Trockenschüttung PA dry bulk leveller



F126.de-V24 Connection to lightweight partition



F126.de-V28 Board joint

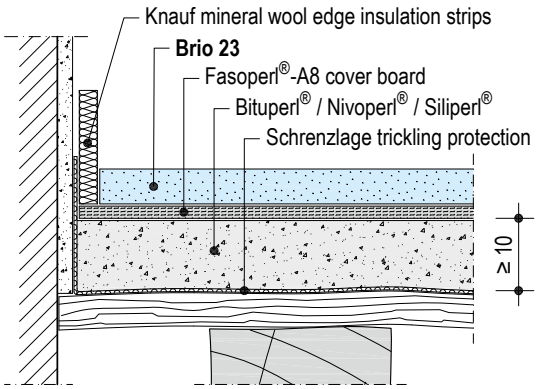


F126.de – Pre-Fab Floor screed on a separating layer / equalization

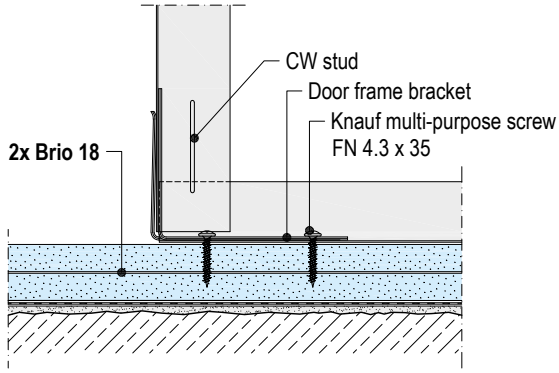
Details

Vertical section I Scale 1:5 I Dimensions in mm

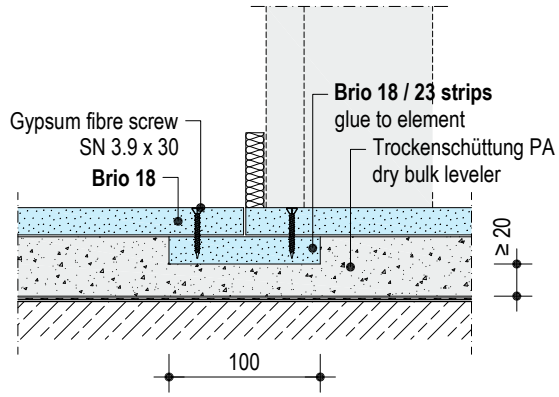
F126.de-V32 Wall connection wood joist ceiling



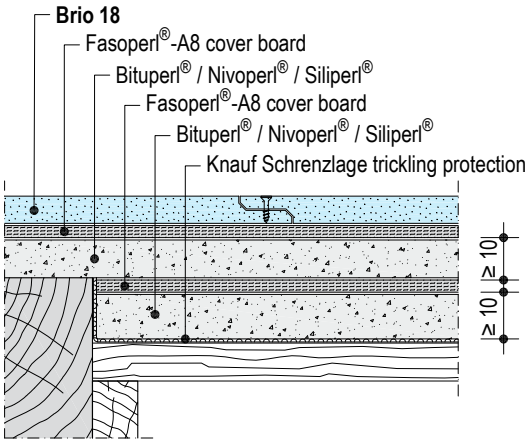
F126.de-V29 Door frame bracket



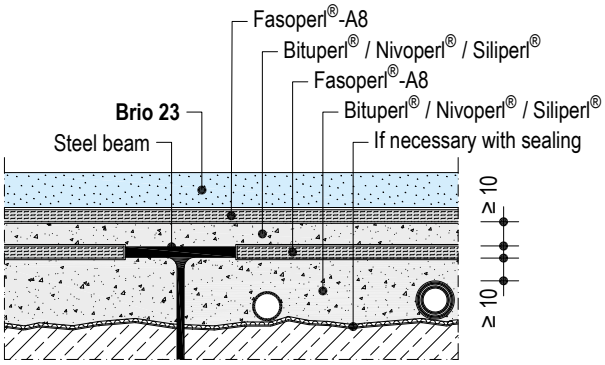
F126.de-V31 Door area element joint



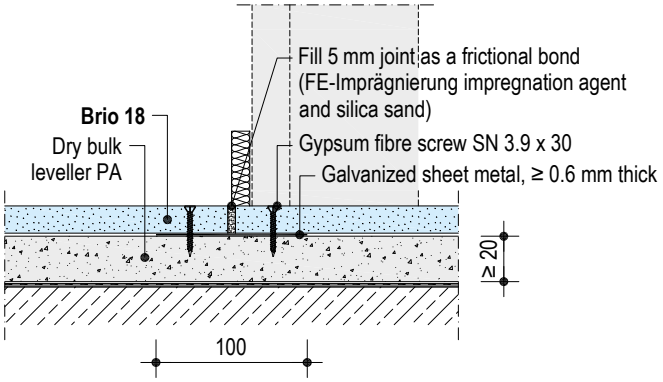
F126.de-V34 Height equalization on load-bearing capable false ceiling



F126.de-V35 Height equalization on steel girder ceiling



F126.de-V33 Door area element joint

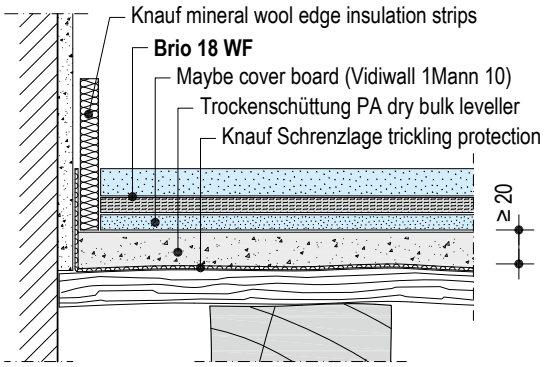


F127.de – Pre-Fab Floor screed on an insulation layer

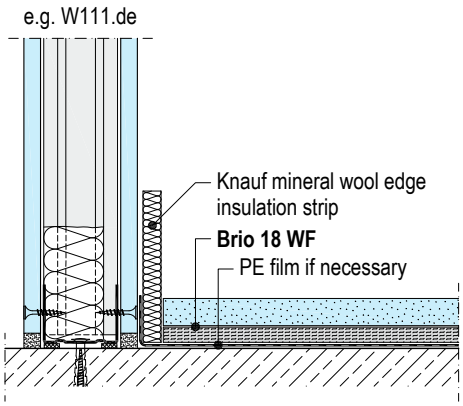
Details

Vertical section I Scale 1:5 I Dimensions in mm

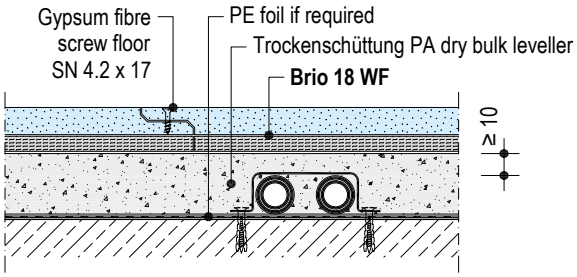
F127.de-V20 Wall connection wood joist ceiling



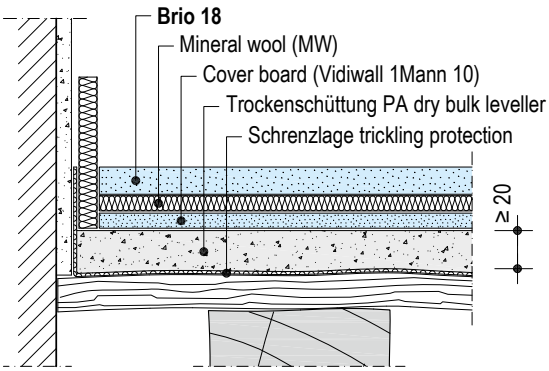
F127.de-V25 Connection to lightweight partition



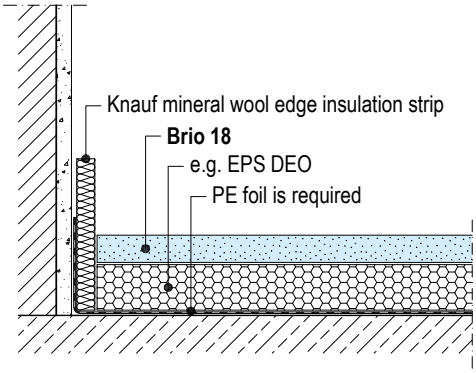
F127.de-V21 Height equalization Knauf Trockenschüttung PA dry bulk leveller



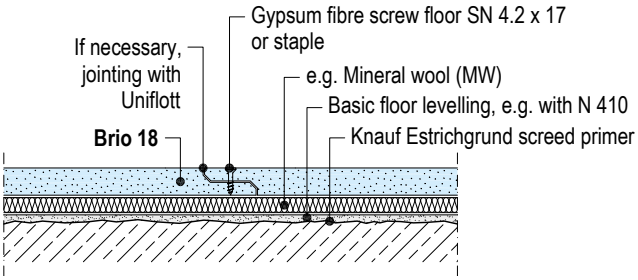
F127.de-V37 Wall connection wood joist ceiling



F127.de-V38 Wall connection solid ceiling



F127.de-V39 Board joint

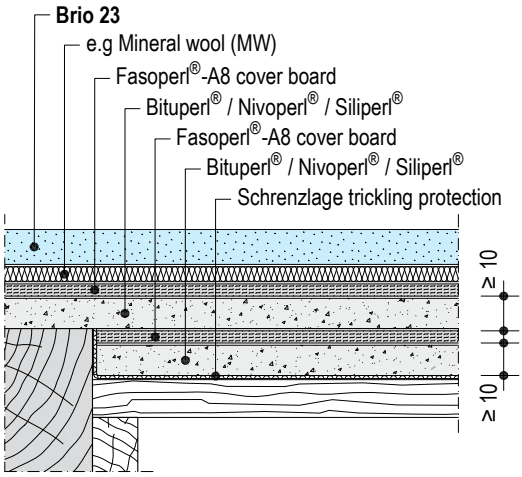


F127.de – Pre-Fab Floor screed on an insulation layer

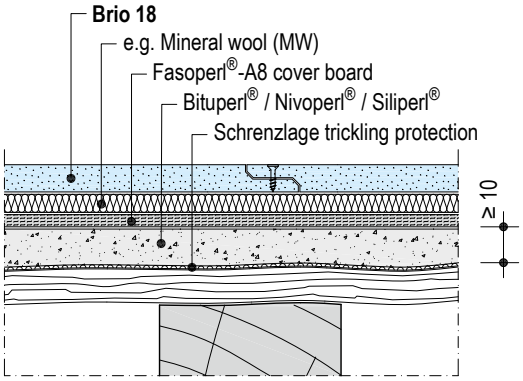
Details

Vertical section I Scale 1:5 I Dimensions in mm

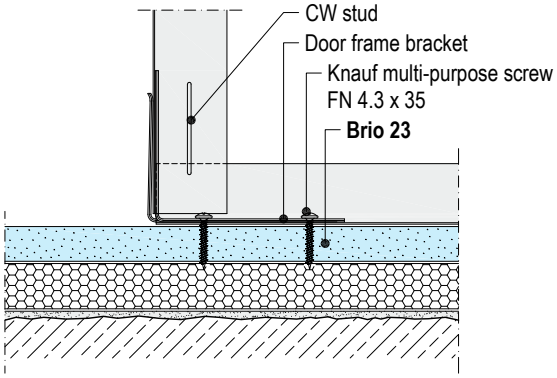
F127.de-V42 Height equalization on load-bearing capable false ceiling



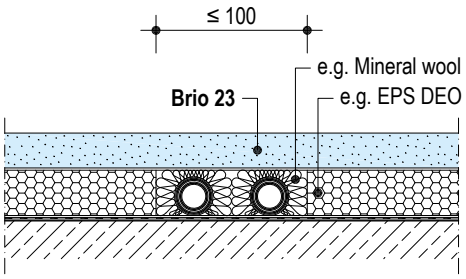
F127.de-V43 Board joint



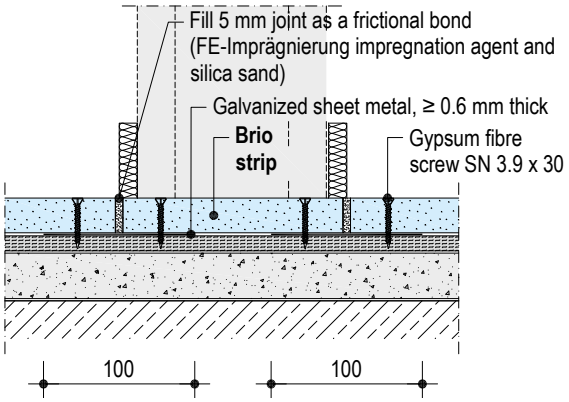
F127.de-V40 Door frame bracket



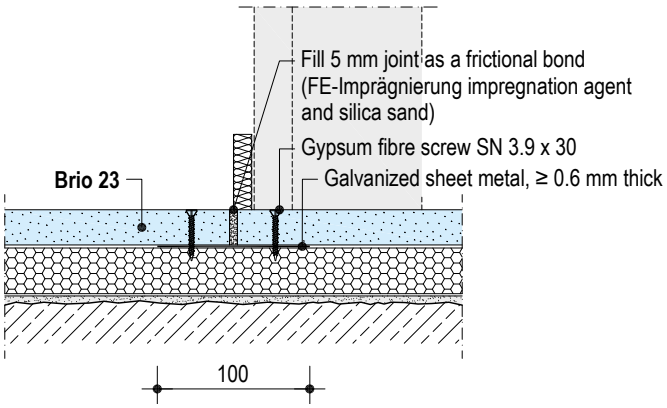
F127.de-V41 Tubes in insulation layer



F127.de-V44 Door area element joint



F127.de-V45 Door area element joint

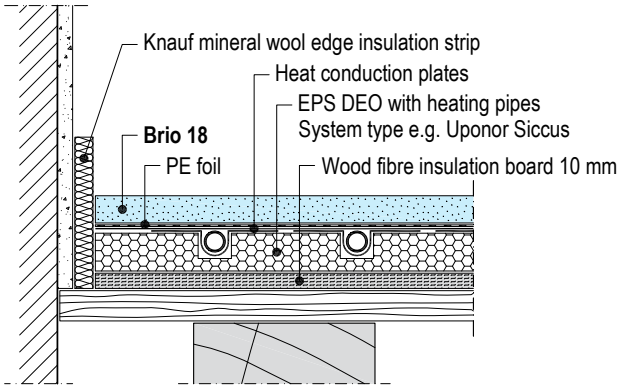


F128B.de – Pre-Fab Floor screed as heating floor screed type B

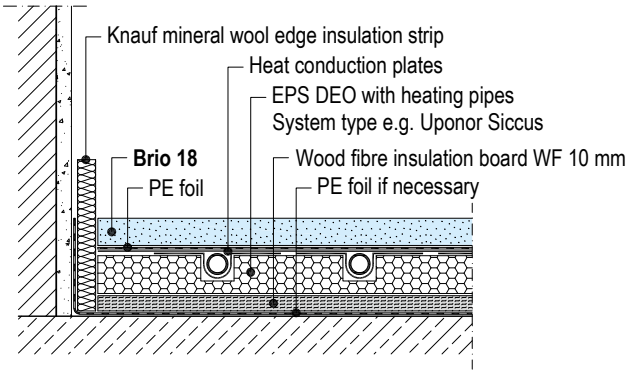
Details

Vertical section I Scale 1:5 I Dimensions in mm

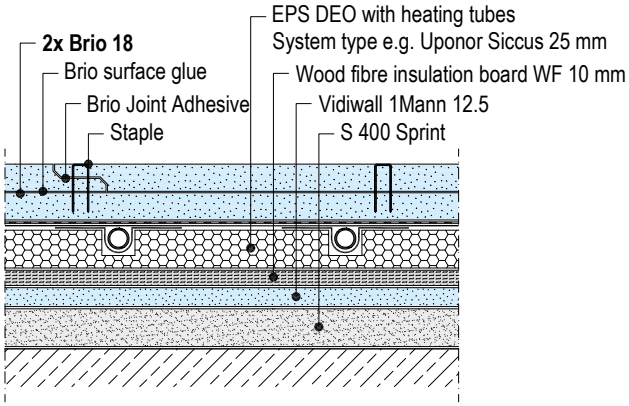
F128B.de-V20 Wall connection wood joist ceiling



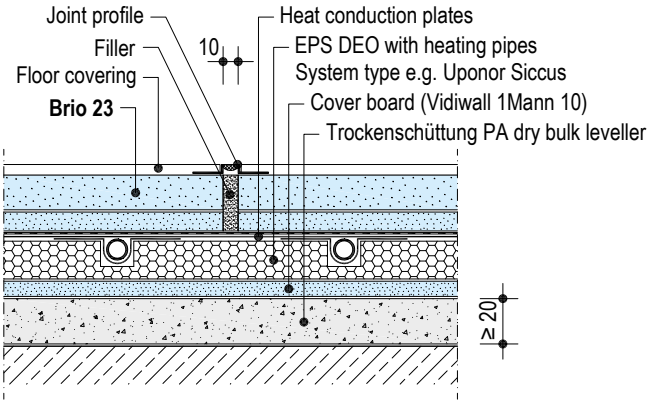
F128B.de-V24 Wall connection solid ceiling



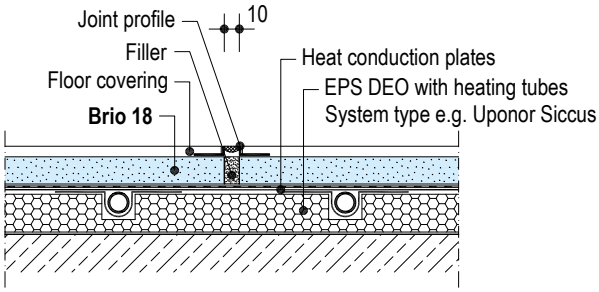
F128B.de-V25 Board joint



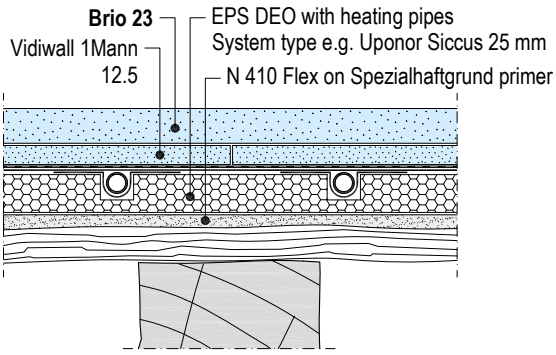
F128B.de-V29 Movement joint with underfloor heating



F128B.de-V21 Movement joint with underfloor heating



F128B.de-V27 Underfloor heating on wood joist ceiling

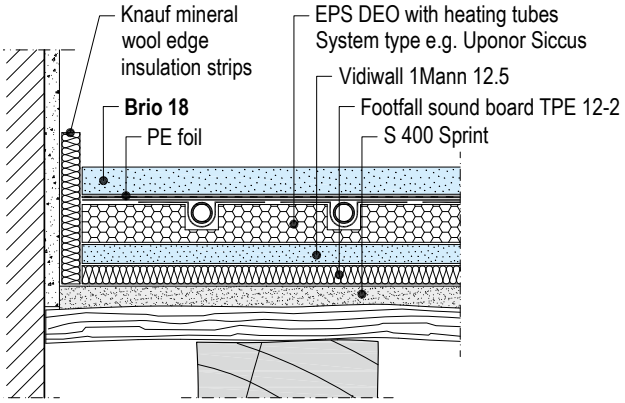


F128B.de – Pre-Fab Floor screed as heating floor screed type B

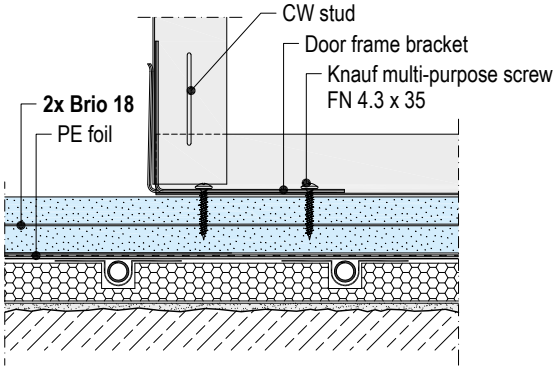
Details

Vertical section I Scale 1:5 I Dimensions in mm

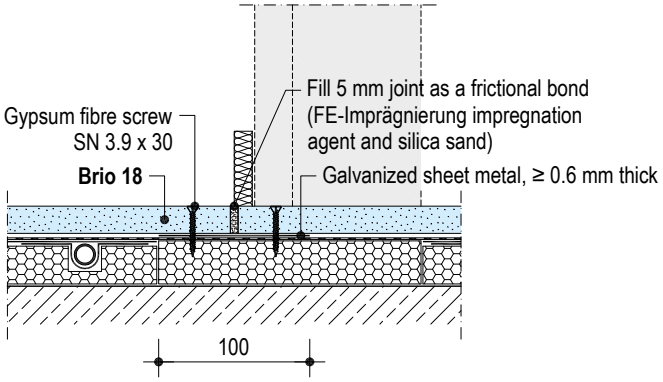
F128B.de-V31 Wall connection wood joist ceiling



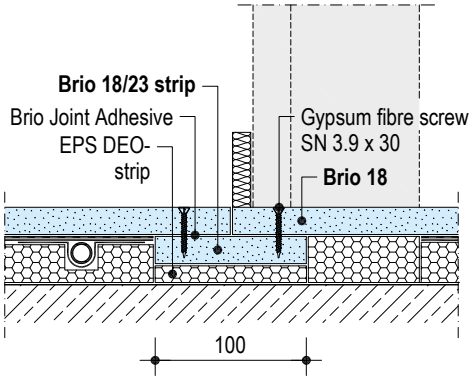
F128B.de-V28 Door frame bracket



F128B.de-V30 Door area element joint



F128B.de-V26 Door area element joint

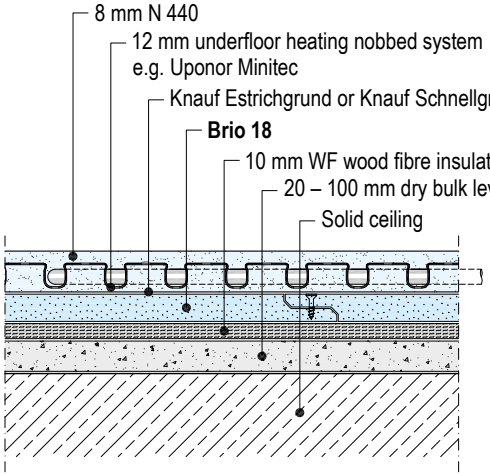


Details

Vertical section I Scale 1:5 I Dimensions in mm

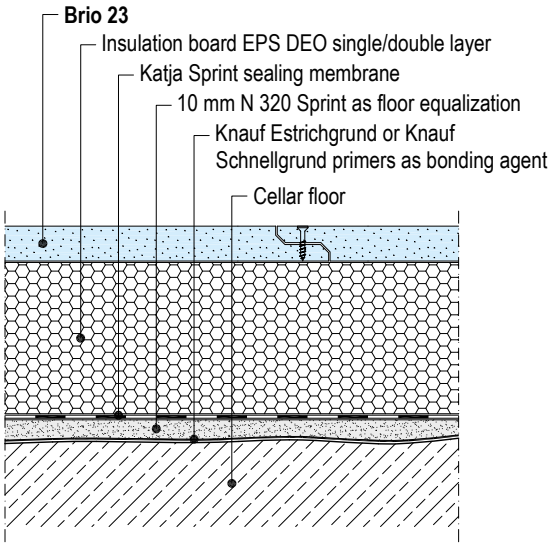
Thin-layer underfloor heating on Brio

- Upgrading in conjunction with a thin-layer underfloor heating is possible on every Knauf Brio construction, see pages 13 to 25.

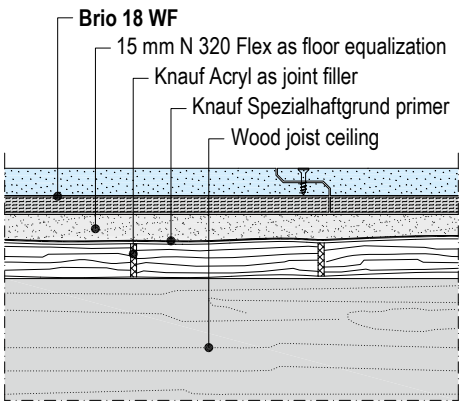


Cellar floor against soil

- Soil contacted

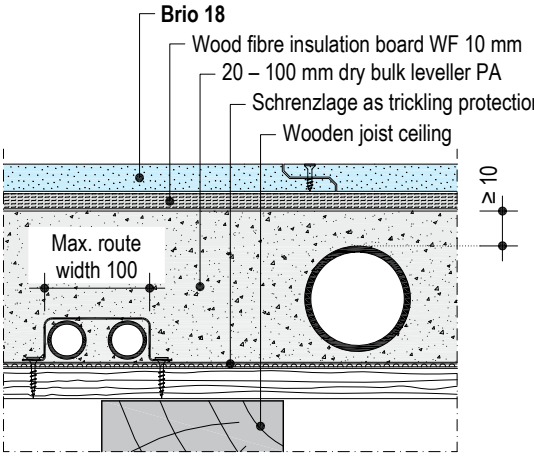


On old wooden joist ceiling

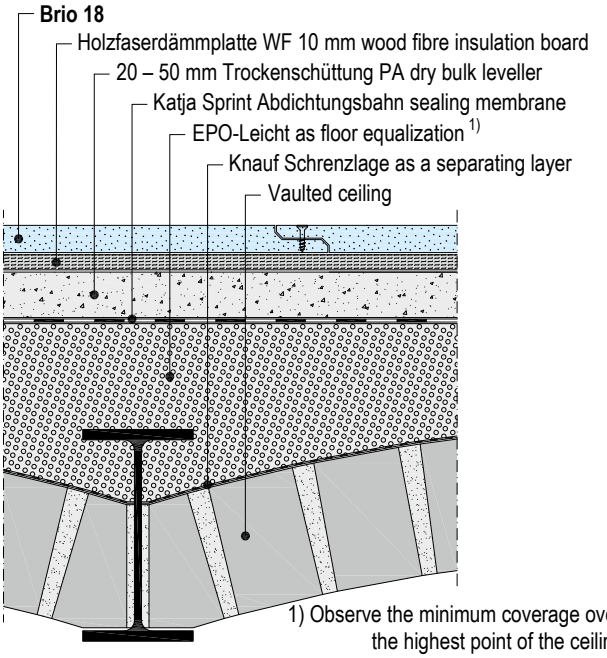


On exposed wood joist ceiling

- With high levelling of basic floor

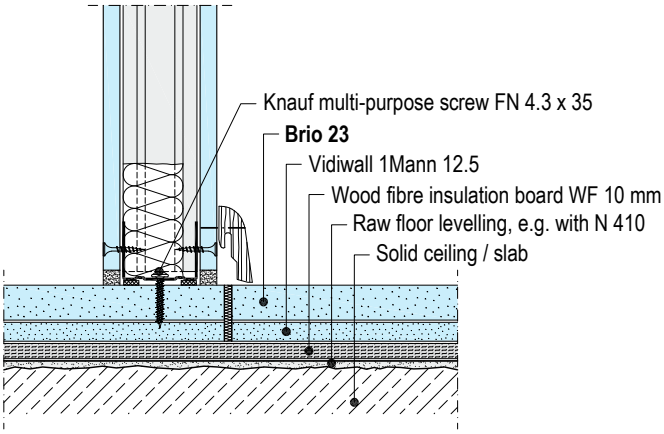


On vaulted ceiling



1) Observe the minimum coverage over the highest point of the ceiling

Lightweight partition, erected



Application in wet rooms

Area of application

Brio can be used in domestic bathrooms and kitchens, in bathrooms of hotel rooms or rooms with similar exposure to moisture. A sealant is required. Brio is not suitable for wet areas where slopes and drains are intended, (e.g. commercial kitchens, communal showers, swimming pools).
Brio may be used in bathrooms with flush-to-floor (barrier-free) shower elements, if the shower tray is applied as a separate element complete with its own slope (see F127.de-V31):
Shower elements also for subsequent installation.

Sealing

Apply Knauf Flächendicht or Knauf Flex-Dicht[1)] to the entire surface. Execute the connections to the walls with Knauf Flächendichtband sealing tape.
Joint between Brio and shower element – barrier free bathroom:
Seal the joint with a sealing strip and integrate into the area sealing of the pre-fab floor screed and shower element. Recommended area sealing is a suitable cementitious sealing slurry (e.g. Knauf Flex-Dicht[1)]).

Insulation layers – barrier free bathroom

EPS DEO (compressive strength ≥ 150 kPa)
With footfall sound insulation use of wood fibre insulation max. 10 mm, e.g. wood fibre insulation board WF.

Levelling

In case of dynamic loads in residential application (e.g. washing machine), EPO-Leicht, S 400 Sprint, Bituperl® or Nivoperl® can be used.
Unsuitable under dynamic loads are Trockenschüttung PA dry bulk leveller, Brio Schüttung dB and Siliperl®.
Use a rigid substrate leveller for the barrier free construction type, e.g. not the flexible light levelling mortar EPO-Leicht, S 400 Sprint or the Knauf jointing compounds.

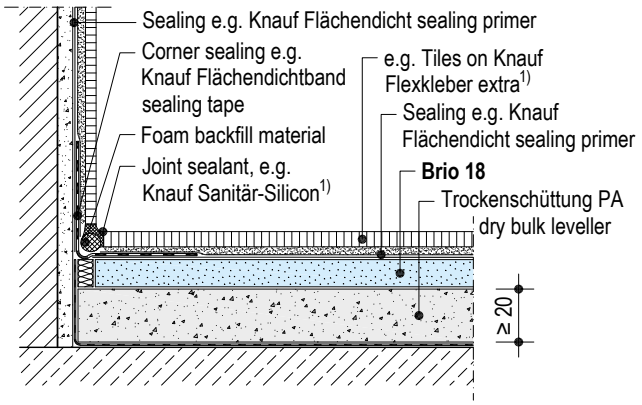
Note	Observe code of practice no. 5 “Bäder und Feuchträume im Holz- und Trockenbau” (German only) - *Bathrooms and wet rooms in timber and drywall construction*[2)].

1) *Knauf Bauprodukte GmbH & Co. KG*
2) *Issued by the German Bundesverband der Gipsindustrie e. V.*

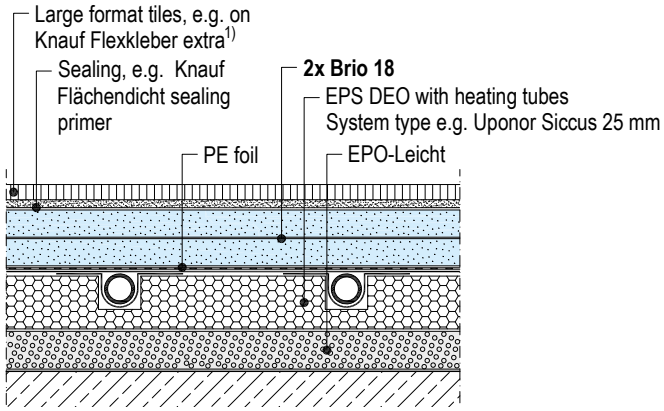
Details

Vertical section I Scale 1:5

F126.de-V20 Wall connection of wet room

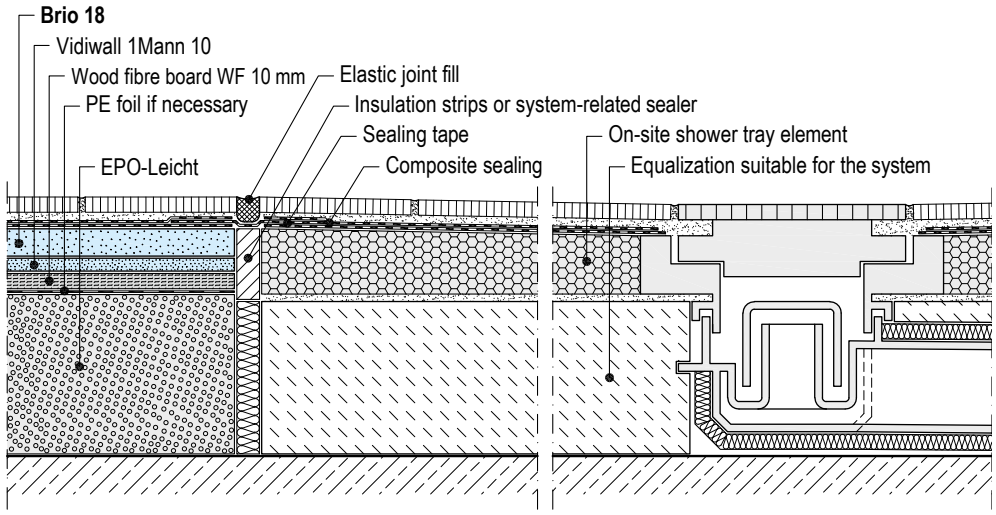


F128B.de-V23 Wet room with underfloor heating



F127.de-V31 Connection to floor of shower unit - barrier free

■ Barrier free bathroom



Installation and application

Height adjustment of the basic floor

The surface must be sufficiently even – check the height! Pre-Fab Floor screed must be applied to the entire surface.

Minor unevenness

For levelling low height differences, use Knauf leveller and equalization compounds after application of a suitable primer.

- Gypsum based leveller and equalization compounds:
  - 0 – 10 mm — N 410
  - 3 – 10 mm — N 410 Flex
  - 2 – 30 mm — N 430
  - 10 – 40 mm — N 440
- Cementitious leveller and equalization compounds:
  - 0 – 20 mm — N 320 Sprint
  - 3 – 20 mm — N 320 Flex
  - 0 – 30 mm — N 330 Premium
  - 5 – 40 mm — N 340
  - 2 – 40 mm — N 340 Sprint

Wooden substrates

- Use corrugated cardboard or a felt base as levelling for minor unevenness on worn old floorboards and direct laying of the pre-fab floor screed without insulation layer.
- Wooden substrates can be filled with N 410 Flex or N 320 Flex. Seal the joints and knotholes beforehand. Application of Knauf Spezialgrund primer is necessary.

Major unevenness

- **Mechanically bonded bulk leveller**
  Use permeable trickling protection on wooden substrates (e.g. Knauf Schrenzlage synthetic coated kraft paper) and apply on the walls and other rising constructional components.
  - **Brio Schüttung dB**
    (Graining 0.5 to 4 mm, weight per unit area approx. 16.5 kg/m² per cm height), residual moisture ≤ 0.3 %, bulk leveller 15 to 150 mm.
    For field of application and use refer to the product data sheet Knauf Brio Schüttung dB F475B.de
  - **Siliperl®**
    (Grain size 1 to 3 mm, Weight per unit area approx. 6.9 kg/m² per cm height), bulk leveller height 10 to 100 mm in a single application or 101 to 200 mm in two layer applications.
    For field of application and use refer to the product data sheet Knauf Siliperl® F473f.de
  - **Dry Bulk Leveller PA**
    (Graining 1 to 6 mm, weight per unit area approx. 5.5 kg/m² per cm height), residual moisture ≤ 1 %, bulk leveller 20 to 100 mm.
    For field of application and use refer to the product data sheet Knauf Trockenschüttung PA dry bulk leveller K437.de
  - **Nivoperl®**
    (Grain size 0 to 6 mm, weight per unit area approx. 1.54 kg/m² per cm height), bulk leveller height 10 to 100 mm in a single application or 101 to 160 mm in two layer applications.
    For field of application and use refer to the product data sheet Knauf Nivoperl® F473e.de
  - **Bituperl®**
    (Grain size 0 to 6 mm, weight per unit area approx. 1.85 kg/m² per cm height), bulk leveller height 10 to 100 mm in a single application or 101 to 200 mm in two layer applications.
    For field of application and use refer to the product data sheet Knauf Bituperl® F473d.de
- **Light levelling mortar:**
  - **EPO-Leicht**
    Is a quick-setting and water-free light levelling mortar for layer thickness' of 15 to 800 mm with a weight per unit area of approx. 2 kg/m² per cm height. EPO-Leicht is used for levelling uneven floors and for filling cavities and height adjustment particularly where high dynamic loads occur (e.g. washing machines, tumbler driers).
    EPO-Leicht can also be used for concrete slabs underneath any necessary sealing required.
    For field of application and use refer to the product data sheet Knauf EPO-Leicht light levelling mortar F441.de
  - **S 400 Sprint**
    Is a quick-drying light levelling mortar made of EPS aggregate and a cement-based special binder for layer thicknesses from 10 to 150 mm in a single application or 151 to 300 mm in two layer applications with a weight per unit area of approx. 4 kg/m² per cm height.
    The high compressive strength and quick drying ensures that S 400 Sprint can be subjected to high loads after just one day.
    For field of application and use refer to the product data sheet Knauf S 400 Sprint F401.de
- In case of constant height adjustment or in case of installation tubes installed on the basic ceiling: Polystyrene EPS DEO or cementitious or magnesite bonded wood wool boards (EN 13168). Encase tubes with mineral wool, EPS or multi-layer wood wool slabs should be applied to the tubes accordingly.
  Maximum permissible installation strip width ≤ 100 mm

Substrate

- Check the substrate and any applied height adjustment layer (unevenness, height difference, load bearing capacity).
- Ensure that there is a load-bearing substrate made of planks or wooden composite boards with wood joist ceilings (maximum deflection l/300 and in case of laying ceramic tiles maximum deflection l/500). No direct laying of pre-fab floor screed on wooden joists (only possible with the Knauf GIFAfloor LBS F191/F192). Application over dead floor and levelling with bulk leveller or EPO-Leicht only if sufficient bearing capacity of the dead floor is assured.
- On reinforced concrete slabs, apply a cover of PE foil of least 0.2 mm thickness as protection against rising residual moisture from the floor that overlaps by at least 20 cm and up the walls to the height of construction.
- On concrete slabs contacting the soil, apply sealing against ground moisture in acc. to DIN 18533 using Katja Sprint sealing membrane.
- Apply 12 mm thick Knauf mineral wool edge insulation strips for the connection to the walls.
- Insulation layers: The technical specifications of the respective manufacturer apply as proofs of suitability.
- In case of direct laying of Brio elements without insulation layer on the even or filled basic floor or on EPO-Leicht or S 400 Sprint, apply painters fleece (side with foil pointing upwards), soft cardboard or similar to avoid clicking and rattling noises between Brio and solid ceiling when walking.

Laying on pre-fab floor screed Brio

Scheme drawings

General

Brio elements can be applied without joints as unheated constructions. Structural joints must be implemented into the screed.

In the door area

- Lay the elements continuously
- Application with Brio elements / wooden material board strips:
  Form butt joints underneath the door leaf and underlay with approx. 100 mm wide strips made of Brio elements or wooden material board strips t ≥ 19 mm and adhesively bond with elements/boards (using Brio Joint Adhesive) and screw fasten.
- Application with galvanized sheet metal:
  Form butt joints underneath the door leaf and underlay with 5 mm joint and back with approx. 100 mm wide galvanized sheet metal strip and screw fasten to the elements. Fill 5 mm joint as a frictional bond (FE-Imprägnierung impregnation agent and silica sand).

Movement joint with galvanized sheet metal

Arrange an approx. 100 mm wide centered galvanized sheet metal strip underneath the 5 to 10 mm wide joint and screw fasten on one side with the elements. Fill the joint with permanently elastic material.

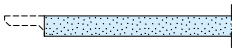
Application

Lay the elements continuously, using the cut section from the previous row ≥ 200 mm to start the new row at an offset (no cut waste).

In case of connections of pre-fab floor screed to other floor constructions (e.g. with flowing screed), provide limit or separating rails or movement joint profiles and pull the foil upwards. Precompact the dry bulk leveller well in the connection area.

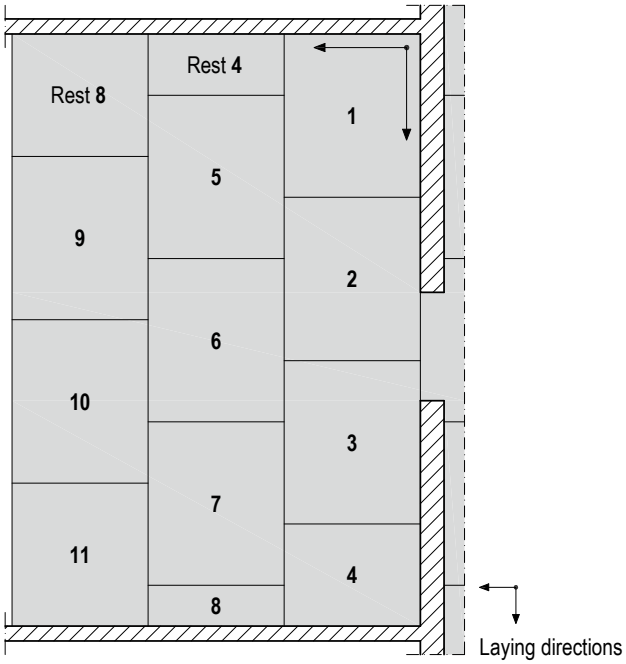
Wall connection 1st element row

Cut off the notch with connection to wall



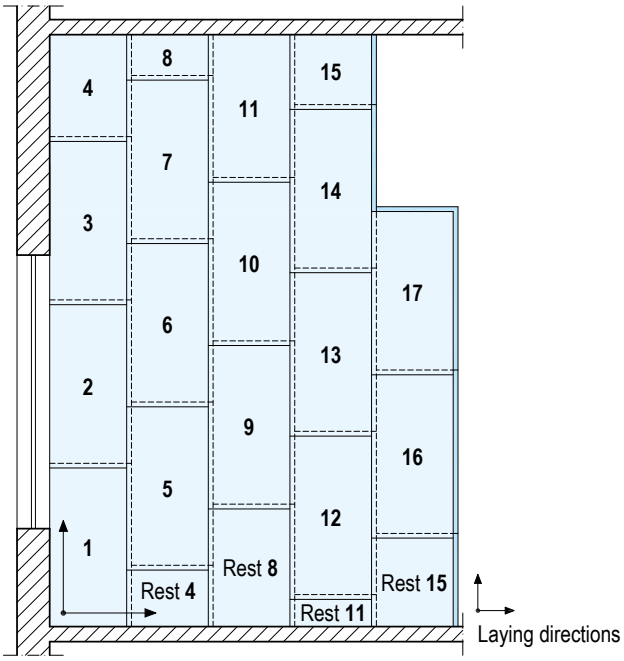
Application Fasoperl®-A8 / Holzfaserdämmplatte WF 10 mm

Start laying on the door side from the right. Cut the last board of each row with a carpet knife as a make-up piece to be used to commence the next row. This ensures joint offset and waste board is avoided. Apply with offset joints in case of multi-layer application.



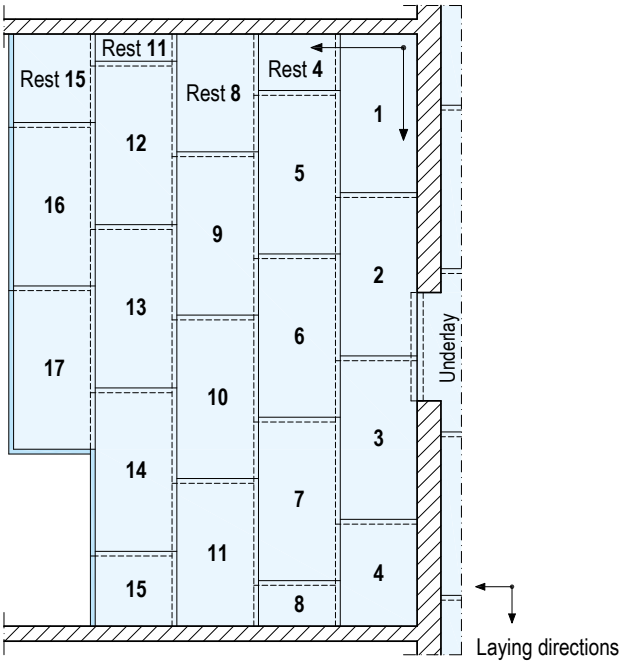
Lay Brio on a separating layer / insulating layer / wood fibre insulation board / basic floor or mechanically bonded bulk leveller with cover board

Start laying on the left of the wall opposite the door. The elements can be laid continuously in the door area (if butt joint at door area, please underlay)



Application of Brio on mechanically bonded bulk leveller without cover board

Start at the right when laying on the door side. Apply underlay to the element joint in the door area. It is recommended that the mechanically bonded bulk leveller is covered with a covering board for saving time when laying the elements. In this case laying should begin at the wall opposite the door starting on the left.



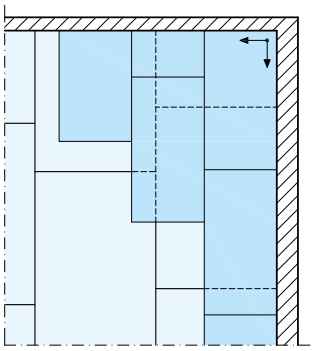
Multi-layer laying

Stagger the joints of the upper and lower layer by at least 200 mm.

Laying Brio on Vidiwall 1Mann:

Butt join the Vidiwall 1Mann and stagger by at least 200 mm. Apply Brio as a floating application with a joint stagger to Vidiwall 1Mann joints ≥ 200 mm.

Brio on Vidiwall 1Mann

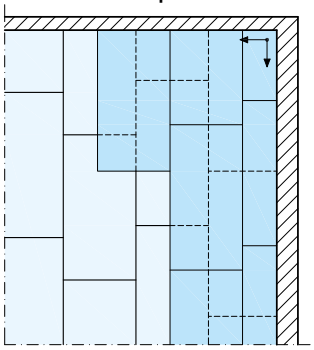


= upper layer (Brio) = lower layer (Vidiwall 1Mann)

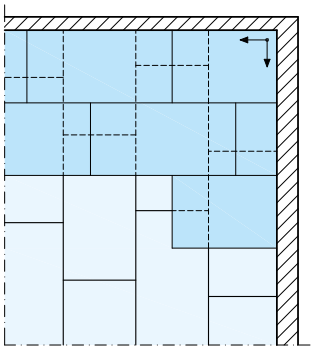
When laying Brio on Brio:

Recommendation: Start the upper layer with a 1/4 element. The Brio layers are adhesively bonded to one another with Brio Surface Glue (toothed trowel notch size B3 according to TKB) and fix with staples or fasten with screws.

Brio on Brio laid parallel



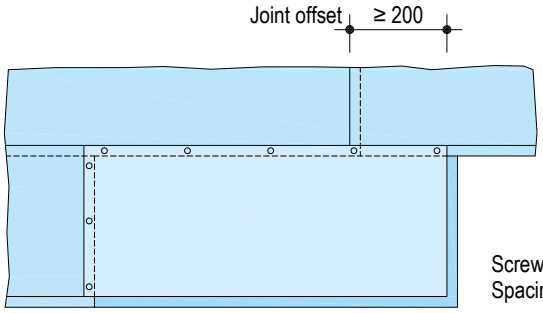
Brio on Brio laid transverse



= upper layer = lower layer

Joint stagger Dimensions in mm

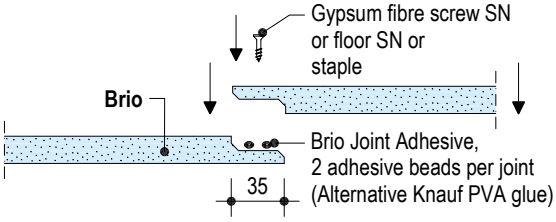
Stagger joint at least 200 mm, cross joints and butt joints not permitted.



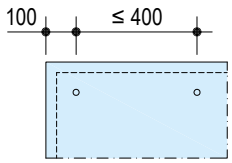
Adhesive bonding + screw fastening / stapling

- Fixed, rigid connection by gluing and sealing the Brio element joint connections in the notch with Brio Joint Adhesive (2 beads of adhesive).
- Alternatively, the notch can be adhesively bonded with Knauf PVA glue (white glue). The setting time is extended and you should not walk on the Brio directly after adhesive bonding. Laying starting at the door and into the room is not possible.
- Fasten the Brio elements in the notch area with gypsum fibre board floor screws SN, 17 mm (Brio 18) or 22 mm (Brio 23) long or using staples (spacing ≤ 300 mm).
- When screw fastening/stapling the element to be fastened it should have the body weight applied to it.

Connection of elements by adhesive bonding + screw fastening / stapling of the notch dimensions in mm



- Screw fixing Brio on Brio
  Spacing of the first fastener of the element edge is at 100 mm, further fasteners in the longitudinal and lateral direction at spacing ≤ 400 mm.



- After laying the pre-fab floor screed using Brio Joint Adhesive, do not walk on the surface for about 4 hours, and when using PVA glue for about 8 hours (temperature dependent) to ensure that the adhesive can set properly.

Notes	Protect the screed surface against building site traffic. It is highly advisable to apply the screed when all other work has been completed. For laying instructions refer to the Application instructions F12LD.de

Screws / staples / staplers

	Notch connection		Surface connection (upper layer with multi-layer laying)	
	Brio 18	Brio 23	Brio 18	Brio 23
Screws				
Gypsum fibre floor screws SN	4.2 x 17 mm	4.2 x 22 mm	–	–
Gypsum fibre board screws SN	–	–	3.9 x 30 mm	3.9 x 45 mm
Staples (brads) for compressed air operated staplers (not in Knauf product portfolio)				
Staple length	14 – 16 mm	18 – 20 mm	23 – 28 mm	28 – 32 mm
Haubold	KL 515	KL 520	KL 525/KL 530	KL 530/KL 535
Poppers-Senco	M08	M11	M13	M17
Electrical stapling devices and staples (not in Knauf product portfolio)				
novus J-165 EC	Type 4/15	Type 4/18	–	–
novus J-171			Type 4/26	–
novus J-172 A				Type 4/28
Maestri MET 32 combi	Type 606/15	Type 606/18	Type 606/25	–

Heating floor screed

Brio elements can be applied on underfloor heating. The installation of movement joints is recommended in doorways and when edge lengths exceed about 20 m. The flow temperature may not exceed 55 °C. Use of electrical underfloor heating or electrical temperature control of tiles is only suitable under certain conditions. A heat build up (e.g. under wardrobes, carpets) must be excluded. The screed element may not exceed a temperature of 45 °C at any point. Application of a thin-layer heated screed on pre-fab floor screed, refer to system data sheet Knauf thin layer heating screed systems – heated and unheated FE22.de

Notes	■ Protect the screed surface against building site traffic. It is highly advisable to apply the screed when all other work has been completed. ■ For laying instructions refer to the Application Instructions F12LD.de

Surface treatment and floor covering

Board joints

Fill the board joints with Uniflott if necessary. With fire protection from above, always fill the joints, screw heads and staple backs with Uniflott.

Repairs

Smaller holes and damage should be sealed with Uniflott. Larger holes and damage in pre-fab floor screed can be repaired with Knauf Stretto. The screed surfaces must be primed with FE-Imprägnierung impregnation agent for this purpose. Stretto is subsequently applied wet on wet.

Protection against moisture in wet rooms

On surfaces where water is expected in domestic bathrooms and kitchens, apply full surface sealant with Knauf Flächendichtband sealing tape.

Chair roll resistance

Brio pre-fab floor screed resists the castors of chairs without supplementary measures.

Priming

Before laying the floor covering and before full surface levelling, Brio must be primed with Knauf Estrichgrund screed primer (diluted 1:1 with water) or Knauf Schnellgrund primer (undiluted). When applying parquet, apply a preliminary layer of system compliant adhesive.

Elastic thin-layer floor coverings

With elastic thin-layer floor coverings (e.g. PVC, Linoleum), Knauf Pre-Fab Floor Screed must have a full surface application of at least a 2 mm thick layer of N 410 applied. Fill the board joints beforehand with Uniflott and subsequently prime with a full surface application of Knauf Estrichgrund screed primer (1:1) or Knauf Schnellgrund primer (undiluted).

Prefabricated parquet or mosaic parquet

Multi-layer prefabricated parquet or mosaic parquet (chequered design) are suitable with full surface adhesive application on pre-fab floor screed. After consultation with Knauf or the adhesive manufacturer, e.g. Uzin Utz AG in Germany (Tel. +49 (0)731 / 40 97-0; www.uzin.de), other types of parquet can be laid.

On a separating layer or with bracket mounting other types of parquet can always be used.

Should Knauf Pre-Fab Floor Screed be levelled with N 410 before the parquet is laid, proceed as described in “Elastic thin-layer floor coverings”.

Ceramic tiles and natural stone

Requirements on the basic ceiling: Ceiling deflection max. l/500.

Use flexible adhesive systems. The processing requirements of the adhesive manufacturer for the tile size used, particularly the stated minimum thickness of the adhesive bed, must be observed, if necessary, install fabric or fleece. Lay stoneware and natural stone using the buttering-floating method, and push the tile with side motion into the adhesive bed while pressing it in. Lay floor tiles with a format of max 33 cm edge length using the thin bed method. Large format floor tiles or natural stone with edge lengths up to 120 cm can be applied on Knauf Pre-Fab Floor Screed. For more details see the load tables on page 13 to page 25.

Notes	If leaktight, non-absorbent tiles (e.g. stoneware) are applied to large areas, the adhesive properties of normal adhesive systems to the substrate may be affected due to the long exposure to moisture. This can be avoided by the application of a sealing preliminary coating (2 layer epoxy resin with sanding) or by using the declared quick drying adhesive mortar. Observe code of practice no. 9 “Top coverings on pre-fab screeds”[1]. The drying times must always be observed.

1) Issued by the German Bundesverband der Gipsindustrie e. V.

Usage instructions

Notes

Notes on the document

Knauf technical brochures are the information documents on special topics as well as on the specialist competence from Knauf. The contained information and specifications, constructions, details and stated products are based, unless otherwise stated, on the certificates of usability (e.g. National Technical Test Certificate (abP) valid at the date they are published as well as on the applicable standards. Additionally, design and structural requirements and those relating to building physics (fire resistance and sound insulation) are considered.

The contained construction details are examples and can be used in a similar way for various structures of the respective system. At the same time, the demands made on fire resistance and/or sound insulation as well as any necessary additional measures and/or limitations must be observed.

References to other documents

System data sheets

- D15.de Knauf Wood Joist Ceiling Systems
- FE22.de Knauf thin-layer heating screed systems 4-side tapered edge

Technical brochures

- Knauf Pre-Fab Screed Brio F12LD.de
- F20.de Knauf Floor Systems - Constructions and Application Technology

Folders

- Fire resistance with Knauf BS1.de (German only)
- Sound insulation and room acoustics with Knauf (only sections in English)

Product data sheets

- Observe the product data sheets of the Knauf system components.

Legend symbols

1 Legend number that will be explained when used

Intended use of Knauf Systems

Please observe the following:

Caution	Knauf systems may only be used for the application cases as stated in the Knauf documentation. In case third-party products or components are used, they must be recommended or approved by Knauf. Flawless application of products / systems assumes proper transport, storage, assembly, installation and maintenance.

General instructions

Term definitions

Knauf Pre-Fab Floor Screed systems are screed systems made of high-quality monolithic gypsum fibre units.

Mechanically bonded bulk leveller:
Bulk levellers who get their stability from fiction and interlocking of the grains. Nivoperl®, Bituperl® and Siliperl® are transformed by compaction to a stable equalization layer.

Light levelling mortar: Mortar made of binder with (lightweight) aggregate or binder with foam/air pores or in combination.

Field of application

Knauf Pre-Fab Floor Screed systems are used in interiors in dependence on the load, substructure and floor covering as systems on insulation layers, separating layers, on bulk levellers, light levelling mortar and equalization materials or as heated screed.
The systems save on installation thickness and weight due to the low layer thicknesses. They are thus ideal for renovation of older buildings or for new constructions with tight deadlines due to its drywall construction method. Knauf Pre-Fab Floor Screed systems improve the fire protection and sound insulation without introducing additional moisture into the building. Knauf Pre-Fab Floor Screed systems are also suitable for domestic areas of high humidity and barrier-free bathrooms.

Application areas

- Residential buildings
- Office construction
- Schools
- Hospitals etc.

Top coverings

- Prefabricated parquet and mosaic parquet (chequered design)
- Floating laying of parquet
- Carpet, PVC and linoleum
- Tiles and natural stone up to 120 cm edge length

Notes on the fire resistance effect

Knauf Pre-Fab Floor Screed systems protect the floor slab from the upper side of the room against the effects of fire as a floor construction and assures the stability of the basic floor/ceiling for the specified fire resistance class classification.

Notes on sound insulation

R_w = Weighted sound reduction index in dB without sound transmission via flanking building components

$L_{n,w}$ = Weighted normalized impact sound pressure level in dB without sound transmission via flanking building components

$C_{I,50\text{-}2500}$ = Spectrum adaptation term for footfall sound pressure level Values in dB that can be added to the single figure specifications to consider features of determined sound spectra

ΔL_w = Weighted impact sound improvement index of the pre-fab floor screed system

Mechanical load performance

Imposed loads

Imposed loads are variable or movable effects on the building element (e.g. persons, furnishings and fittings, unloaded lightweight partitions, stored materials), which have to be specified by the planners in accordance with the intended usage. This brochure includes constructions for the standard specified imposed loads (carrying capacities). Knauf Pre-Fab Floor Screed systems are designed for example for residential and office areas as well as hotels and hospitals.

Certificates of Usability

Knauf System	Fire resistance	Sound insulation
F126.de	abP P-3103/9975-MPA BS	T 014-03.15 T 015-07.16 T 019-05.19
F127.de		
F128B.de		

The stated constructional and structural 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. The validity and up-to-datedness of the stated proofs have to be considered.

Notes on fire resistance

The specifications marked with plus offer additional application options, which are not directly included in the Certificate of Usability. On the basis of our technical assessments, we assume that these marked design solutions can be assessed as a non-significant divergence. We can make the documentation on which this assessment is based, such as surveyors' reports or technical assessments, available to you together with the Certificate of Usability on request. We recommend that a non-significant divergence be coordinated and authorised in advance in consultation between the persons responsible for fire resistance and/or the relevant authorities.

plus Extension of the fire resistance Proof of Usability

Prior consultation with respect to fire resistance notes recommended.

Knauf System	Divergences
F126.de	■ For variant F30 ■ For variant Brio 18 / Brio 18 MW / 2x Brio 18 ■ For variant Brio 23 on fire resistance permissible layer ■ For variant joint offset 200 mm
F127.de	
F128B.de	

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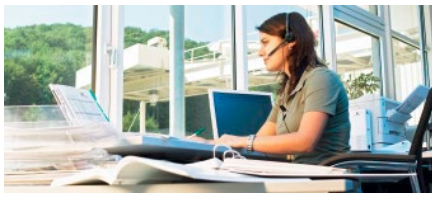

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› www.knauf.com

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Plaster and façade systems
Floor systems

Knauf Insulation
Insulation systems for renovation and new projects

Knauf Integral
Gypsum fibre technology for floors, walls and ceilings

Knauf Performance Materials
Refined perlite for horticulture and industrial applications, technical insulation

Knauf PFT
Machine technology and plant engineering

Marbos
Mortar systems for cobblestone paving

Sakret Bausysteme
Dry mortars for new projects and renovations

F12.de/eng/08.22/3/TBr

KNAUF

Drywall Systems

F12-E01_TB.de

Technical Brochure *07/2025*

Knauf Pre-Fab Floor Screed – Corrective Actions

F126.de – Pre-fab floor screed on a separating layer / equalization
F127.de – Pre-fab floor screed on an insulation layer
F128B.de – Pre-fab floor screed as heating floor screed type B

NEW

- Construction with Joco TOP 2000® ÖKOmineral

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Rework of the construction recommendations for Knauf pre-fab floor screed

Changes in the verification procedure for fire resistance classes, which affect the entire industry, have forced us to revise some of our fire protection documents, such as the technical brochure Knauf Pre-Fab Floor Screed F12.de. We will examine the reasons for these changes in the following:

The building regulation demands on the construction types result from the individual Federal state building regulations as well as the supplementary administrative regulations and directives. Proof of fulfilment of these requirements can be provided by standards introduced by the building authorities (regulated types of construction), e.g. DIN 4102-4 or individual verifications (non-regulated types of construction) by means of general type approvals (aBG), general building authority test certificates (abP) or project-related type approvals (vBG).

The Model Administrative Regulation - Technical Building Rules (MVV TB) 2025/01, Annex 4, Table 4.2.4, states that no classifications F60-B or F90-B are assigned to the area of the building authority requirement "highly fire-retardant" or "fire-proof". This circumstance is not essentially new, but is now handled in such a way that no new certificates are issued for these fire resistance classes and existing certificates are no longer extended.

This also applies to tested constructions from Knauf that have been tested for ceilings with combustible load-bearing frame, such as wooden beam ceilings, for a period of ≥ 60 minutes and are classified, for example, as F60-B or F90-B in accordance with DIN 4102-2. According to the current status, exceptions are only conceivable in the case of project-related construction type approvals (vBG), where deviating requirements are established as part of a fire protection concept.

What does this mean for planning and application

Due to the changes listed above, we are adapting our design recommendations and the verification procedure for fire protection. Until the technical brochure Knauf Pre.-Fab Floor Screed F12.de has been completely reworked and amended, the modified constructions and proofs can be found in this document.

General notes on fire resistance

The values in the following tables on pages 6 to 7 apply for single-sided exposure to fire from the top side of the ceiling. The specified supporting layer thickness is the required minimum thickness for fire resistance. Larger screed thickness's that are structurally necessary must be considered. The maximum permissible load per unit area in case of fire is 5.0 kN/m² plus.

Note

Before application of the Knauf Pre-Fab Floor Screed, the load-bearing capability and the deformation of the floor slab must be verified (see also technical brochure Knauf Pre-Fab Floor Screed F12.de page 45).

The sequence of the layers required for fire protection listed in the tables on pages 6 to 7 is mandatory. Fire resistance permissible intermediate layers, with the exception of sheet metal in the tables on pages 6 to 7 can also be additionally arranged between the necessary layers..

- Non-combustible building materials A1/ A2 are e.g.: Mineral fillers, Vidiwall), dry bulk leveller PA, mineral wool footfall sound insulation boards and S 400 Sprint.
- ≤ 5 mm separating layers are, e.g.: Knauf Schrenzlage, Knauf Integral Auflagerdämmstreifen support insulation strips, Malervlies fleece layer, Wellpappe corrugated cardboard, PE foil.

Construction

- Brio should be aligned and applied with a minimum 200 mm joint offset, joints and screw heads / staple backs must be filled with Uniflott.
- Bonding of the rebates with Brio Joint Adhesive or fastening with Knauf gypsum fibre floor screws (spacing ≤ 300 mm).

Edge design

- Edge insulation strips: Building material class A, melting point ≥ 1000 °C, density ≥ 90 kg/m³ (e.g. Knauf edge insulation strips made of mineral wool).

Layers above the base substrate

- Above Brio constructions with a fire resistance classification, either a thin-layer underfloor heating system (e.g. Uponor Minitec) with N 440 or alternatively and additional Brio board layer for accepting special cut heating pipe grooves can be installed.
- Commonly used floor coverings can be applied on the Brio pre-fab floor screed constructions.

Note plus Extension of the fire resistance Proof of Usability see page 9.

Raw ceiling types

Variant 1 Wood joist ceilings

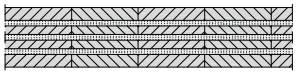
Requirements for wood joist ceilings

Building type		Description
	Wood joist ceiling without sound boarding	**Sheathing** ▪ Wooden composite boards ≥ 16 mm, ρ ≥ 600 kg/m³ with tongue and groove connection **or** ▪ Wooden floorboards ≥ 21 mm with tongue and groove **Joists** Width ≥ 40 mm, spacing ≤ 900 mm (strength class C24 acc. to DIN EN 338, sorting class S10 acc. to DIN 4074-1)
	Wood joist ceiling with sound boarding	

The other provisions of the technical building regulations applicable to the ceiling construction and introduced under building regulations must be observed.

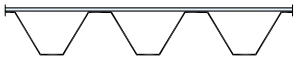
Variant 2 Solid ceilings

Requirements for solid ceilings

Building type		Description
	Solid ceiling	Normal-weight concrete, compressive strength category C 20/25 to C 50/60 Minimum thickness: F30 or F60 of 80 mm, F90 of 100 mm Lower thickness's of the basic ceiling is possible when the load-bearing capacity is certified. plus
	Steel girder ceiling	Structural rating of the steel girder Covering: Concrete or similar Minimum thickness of covering: 80 mm for F30 or F60 100 mm for F90 Lower thickness's of the basic ceiling is possible when the load-bearing capacity is certified. plus
	Solid wood ceilings plus	Solid wood elements made of glued or adhesively bonded cross-laminated timber, stacked timber elements or Glulam elements must be verified for load-bearing capacity (depending on the construction “R 30” to “R 90”) for the service condition and additionally for the fire load case (here hot rating according to DIN EN 1995-1-2 with DIN EN 1995-1-2/NA).

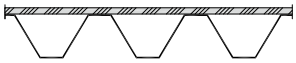
Variant 3 Steel trapezoid profile ceilings

Requirements for trapezoid sheet metal covers

Building type		Description
	Steel trapezoid profile ceiling	Rating of the steel trapezoid profile acc. to the structural engineering, with additional, tightly jointed layer between the ceiling and floor construction: ▪ Gypsum board GKF ≥ 12.5 mm **or** ▪ Gypsum fibre board ≥ 10 mm **or** ▪ Wooden composite boards ≥ 16 mm, ρ ≥ 600 kg/m³ with tongue and groove connection **or** ▪ Wooden floorboards ≥ 21 mm with tongue and groove **or** ▪ Cementitious boards ≥ 12.5 mm

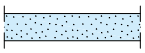
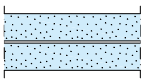
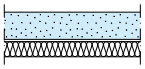
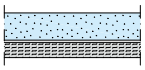
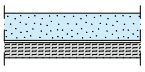
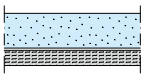
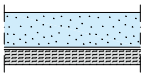
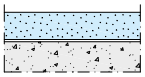
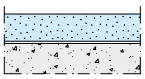
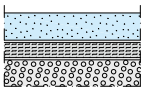
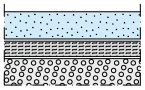
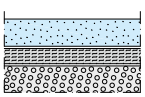
plus Variant 4 Other standard ceilings

Demands on the other standard ceilings

Building type		Description
	Lightweight steel construction ceilings	Rating of the constructions acc. to the structural engineering, with additional, tightly jointed layer between the ceiling and floor construction: Wooden composite boards ≥ 22 mm, ρ ≥ 600 kg/m³ with tongue and groove connection
	Cubo Room-in-room systems Ceilings	
	Trapezoid sheet metal ceilings	
	Steel beam ceilings	

Note plus Extension of the fire resistance Proof of Usability see page 9.

Fire protection constructions with Knauf Pre-Fab floor screed

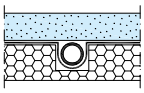
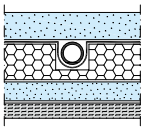
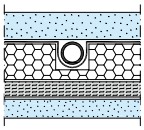
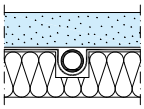
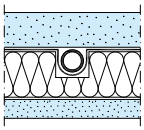
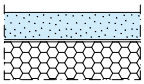
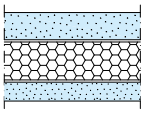
Floor construction	Supporting layer Required mini thickness for fire resistance Configuration from top to bottom	Permissible intermediate layers (see also page 4)	Floor slab types (see also page 5) 1 [1)] 	2 	3 	4 
F126.de / F127.de / F128B.de Knauf Pre-fab floor screed			**Fire resistance class**			
	Brio 18	Non-combustible building materials A1/A2 and/or ≤ 2 mm textile fleece/≤ 4 mm corrugated cardboard	F30	F30	F30	–
	Brio 18 on ≤ 2 mm textile fleece / ≤ 4 mm corrugated cardboard	Non-combustible building materials A1/A2	F30 F60	–	–	–
	2x Brio 18	Non-combustible building materials A1/A2 and/or ≤ 2 mm textile fleece/≤ 4 mm corrugated cardboard and/or ≤ 100 mm Nivoperl®/Bituperl® + Fasoperl®-A8	F30 plus F60 plus F90 plus	F30 plus F60 plus	F30 plus F60 plus	–
	Brio 18 MW	Non-combustible building materials A1/A2	F30 F60	F30	F30	–
	Brio 18 WF	Non-combustible building materials A1/A2	F30 plus F60 plus	F30 plus F60 plus	–	F30 plus F60 plus
	Brio 18 on ≥ 10 mm Knauf WF	Non-combustible building materials A1/A2	F30 plus F60 plus	F30 plus F60 plus	–	F30 plus F60 plus
	Brio 23 WF	Non-combustible building materials A1/A2	F30 plus F60 plus F90 [2)] plus	F30 plus F60 plus F90 plus	–	F30 plus F60 plus F90 plus
	Brio 23 on ≥ 10 mm Knauf WF	Non-combustible building materials A1/A2	F30 plus F60 plus F90 [2)] plus	F30 plus F60 plus F90 plus	–	F30 plus F60 plus F90 plus
	Brio 18 on ≥ 20 mm PA bulk leveller	Non-combustible building materials A1/A2	F30 F60	F30 F60	F30 F60	–
	Brio 18 on ≥ 40 mm PA bulk leveller	Non-combustible building materials A1/A2	F30 F60 F90	F30 F60 F90	F30 F60 F90	–
	Brio 18 WF On ≥ 20 mm EPO-Leicht light levelling mortar	Non-combustible building materials A1/A2	F30	F30	F30	–
	Brio 18 WF on ≥ 40 mm EPO-Leicht light levelling mortar	Non-combustible building materials A1/A2	F30 F60	F30 F60	F30 F60	–
	Brio 18 WF on ≥ 60 mm EPO-Leicht light levelling mortar	Non-combustible building materials A1/A2	F30 F60 F90	F30 F60 F90	F30 F60 F90	–

1) The other provisions of the technical building regulations applicable to the ceiling construction and introduced under building regulations must be observed.

2) For rating to fire resistance class F90, on the lower side of the ceiling construction with fire exposure from above, additional covering is required consisting of at least wooden battens (width x thickness ≥ 50 mm x 30 mm, axial spacing ≤ 400 mm) and Knauf Fire-Resistant Board GKF t ≥ 12.5 mm.

Note plus Extension of the fire resistance Proof of Usability see page 9.

Fire protection constructions with Knauf Pre-Fab floor screed (continuation)

Floor construction	Supporting layer Required minimum thickness for fire resistance Configuration from top to bottom	Permissible intermediate layers (see also page 4)	Floor slab types (see also page 5) 1 [1)]  2  3  4 
F126.de / F127.de / F128B.de Knauf Pre-fab floor screed			**Fire resistance class**
	Brio 18 on 25 mm Uponor Siccus	Non-combustible building materials A1/A2	F30 | F30 | F30 | –
	Brio 18 on 25 mm Uponor Siccus on Vidiwall 1Mann 12.5 on ≥ 10 mm Knauf WF	Non-combustible building materials A1/A2	F30 plus | F30 plus | F30 plus F60 plus | F60 plus | F60 plus F90 plus | –
	Brio 18 on 25 mm Uponor Siccus on ≥ 10 mm Knauf WF on Vidiwall 1Mann 12.5	Non-combustible building materials A1/A2	F30 plus | F30 plus | F30 plus F60 plus | F60 plus | F60 plus F90 plus | –
	Brio 23 on Joco TOP 2000® ÖKOmineral[2)]	S 400 Sprint	F30 plus | F30 plus | F30 plus F60 plus | –
	Brio 23 on Joco TOP 2000® ÖKOmineral[2)] on Vidiwall 1Mann 12.5	S 400 Sprint	F30 plus | F30 plus | F30 plus F60 plus | F60 plus | F60 plus F90 plus | –
	Brio 18 on ≤ 60 mm EPS/XPS	Non-combustible building materials A1/A2 or instead of EPS/XPS ≤ 100 mm Nivoperl®/Bituperl® + Fasoperl®-A8	F30 plus | F30 plus | F30 plus | –
	Brio 18 on ≤ 60 mm EPS/XPS on Vidiwall 1Mann 12.5	Non-combustible building materials A1/A2 or instead of EPS/XPS ≤ 100 mm Nivoperl®/Bituperl® + Fasoperl®-A8	F30 plus | F30 plus | F30 plus F60 plus | F60 plus | F60 plus F90 plus | –

1) *The other provisions of the technical building regulations applicable to the ceiling construction and introduced under building regulations must be observed.*

2) *Permissible loads, max. 1 kN point load and 2 kN/m² area load*
Permissible floor covering category **A** *acc. to technicalTechnical Brochure Knauf Pre-fab Floor Screed F12.de page 12.*

Note plus Extension of the fire resistance Proof of Usability see page 9.

Notes on the technical brochure

Knauf technical brochures are the information documents on special topics as well as on the specialist competence from Knauf. The contained information and specifications, constructions, details and stated products are based, unless otherwise stated, on the Proofs of Usability (e.g. National Technical Test Certificate (abP) valid at the date they are published as well as on the applicable standards. Additionally, design and structural requirements and those relating to building physics (fire resistance and sound insulation) are considered.

The contained construction details are examples and can be used in a similar way for various cladding variants of the respective system. At the same time, the demands made on fire resistance and/or sound insulation as well as any necessary additional measures and/or limitations must be observed.

References to other documents

System data sheets

- D15.de Knauf Wood Joist Ceiling Systems
- Knauf Thin-layer Screed Systems FE22.de

Technical brochures

- Knauf Pre-fab Floor Screed F12.de
- Knauf Pre-Fab Screed Brio F12LD.de
- Knauf Floor Systems F20.de

Folders

- Fire resistance with Knauf BS1.de (German only)
- Sound insulation and room acoustics with Knauf (only sections in English)

Product data sheets

- Observe the product data sheets of the individual Knauf system components.

Legend symbols

1 Legend number that will be explained when used

Intended Use of Knauf systems

Please observe the following:

Caution	Knauf systems may only be used for the application cases as stated in the Knauf documentation. In case third-party products or components are used, they must be recommended or approved by Knauf. Flawless application of products / systems assumes proper transport, storage, assembly, installation and maintenance.

Certificates of Usability

Knauf system	Fire protection
F126.de	abP P-2101/493/16-MPA BS
F127.de	
F128B.de	

The specifications marked with plus offer additional application options, which are not directly included in the Certificate of Usability. On the basis of our technical assessments, we assume that these marked design solutions can be assessed as a non-significant divergence. We can make the documentation on which this assessment is based, such as surveyors' reports or technical assessments, available to you together with the Certificate of Usability on request. We recommend that a non-significant divergence be coordinated and authorised in advance in consultation between the persons responsible for fire resistance and/or the relevant authorities.

The stated constructional and structural properties, and characteristic building physics of Knauf systems can solely be ensured with the exclusive use of Knauf system components, or other products explicitly recommended by Knauf. The validity and up-to-datedness of the stated proofs have to be considered.

plus Extension of the fire resistance Proof of Usability

Prior consultation with respect to fire resistance notes recommended.

Knauf system	System-related deviations	System-wide divergences
F126.de	–	▪ In case of enhanced area load ▪ In case of a divergent base layer ▪ In case of a divergent construction underneath the base layer ▪ In case of a divergent permissible intermediate layers ▪ In case of application on a divergent floor slab
F127.de	–	
F128B.de	▪ When an alternative heating system is used	

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

Build on us.

F12-E01_TB.de/eng/07/25/0