

GIFAtec

F18.de

System data sheet

08/2024

Knauf GIFAfloor hollow floor

F181.de – Knauf hollow floor GIFAfloor FHB single-layer

F182.de – Knauf hollow floor GIFAfloor FHBplus and GIFAfloor FHBultra double-layer

Note on English translation / Hinweise zur englischen Fassung

This is a translation of the System Data Sheet 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 denies any liability for applications outside of Germany as this requires changes acc. to the respective national standards and building regulations.

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

Die Knauf 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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Notes on the document

Knauf system data sheets are the planning and implementation basis for planners and specialised contractors for the application of Knauf systems. Unless otherwise stated, the information and specifications, design variants, installation details and products listed are based on the certificates of applicability (e.g. general building authority test certificates abP) and standards valid at the time of preparation. In addition, building physics (fire protection and sound insulation), design and structural requirements are taken into account.

The design details included are examples and can be used analogously for different panelling variants of the respective system. However, any additional measures and/or restrictions that may be required for fire protection and/or sound insulation requirements must be taken into account.

References to other documents

Technical information

- TI Klima GIFAfloor Klima 25

Technical data sheets

- K841.de GIFAfloor FHB panels
- K436e.de Knauf GIFAfloor edge insulation strip MW
- K844c.de GIFAfloor pedestal adhesive EC 1
- K844d.de GIFAfloor thread locker EC 1
- K844e.de Knauf GIFAfloor blue
- K844h.de Knauf GIFAfloor uno EC 1
- K844i.de Knauf GIFAfloor duo EC 1
- F431.de Knauf Estrichgrund screed primer
- Observe the technical data sheets of the individual Knauf system components.

Intended use of Knauf systems

Please observe the following

Attention

Knauf systems may only be used for the applications specified in the Knauf documents. If third-party products or components are used, these must be recommended or approved by Knauf. Proper use of the products/systems requires proper transport, storage, installation, assembly and maintenance.

General information on the Knauf system

Field of application

Knauf GIFAfloor hollow floors are used in interior areas, e.g. for installations of all kinds. Depending on the choice of base layer and pedestals they can be installed with the usual floor coverings for almost all areas of application such as office, commercial, hotel, hospital, assembly, exhibition and airport buildings. Knauf GIFAfloor hollow floors are suitable for domestic damp rooms. Knauf GIFAfloor hollow floors improve the fire protection and sound insulation without introducing additional moisture into the building.

Area of application

- Office buildings
- Hotel construction
- Schools
- Hospital construction
- Airports

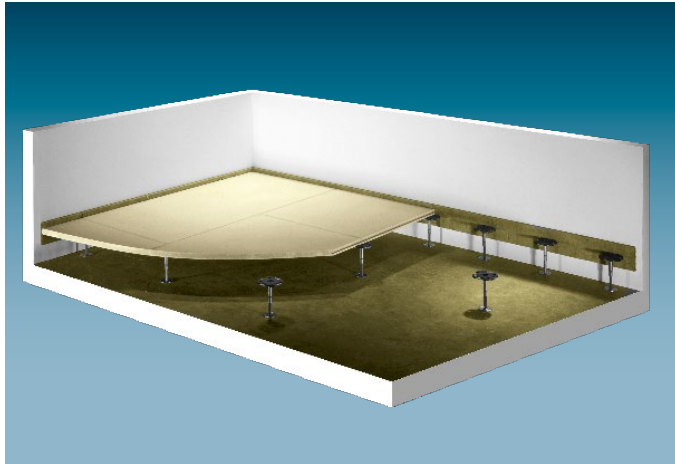
Knauf GIFAfloor hollow floor system

Knauf GIFAfloor FHB (Flächenhohlboden) is the perfect solution for large rooms that are subject to heavy traffic. By bonding the 1200 x 600 mm or 600 x 600 mm elements in tongue and groove, an absolutely flat floor surface is created.

The advantages of this flooring system are its high load-bearing capacity, the freedom of installation in the cavity and the absorption of additional loads such as drywall. Compared to raised floors, GIFAfloor FHB can be planned with a significantly lower installation height thanks to its high load distribution. This creates an ideal surface for any type of floor covering - whether parquet, elegant stone tiles or noise-absorbing carpeting. Areas up to approx. 15 x 15 metres can be laid without joints.

GIFAfloor FHB is the solution for functional floors due to its quick installation, high flexibility and exceptional load-bearing capacity.

F18.de Knauf GIFAfloor hollow floor



- F181.de** Knauf hollow floor GIFAfloor FHB single-layer
- F182.de** Knauf hollow floor GIFAfloor FHBplus and GIFAfloor FHBultra double-layer

GIFAfloor standard elements

Schematic drawings not to scale	Technische Daten						
	Element Designation according to EN 15283-2	Element dimensions mm	Element thickness mm	Weights (Density $\geq 1500 \text{ kg/m}^3$) Panel approx kg/pc approx. kg/m^2		Material number	Packaging unit Palletising
Dimensions in mm 	GIFAfloor FHB elements						
	FHB 25	1200x600	25	29.2	40.6	31256	35 pcs./pal.
		600x600	25	14.6	40.6	63565	70 pcs./pal.
	FHB 28	1200x600	28	32.8	45.5	31545	30 pcs./pal.
		600x600	28	16.4	45.5	50980	60 pcs./pal.
	FHB 32	1200x600	32	37.4	52.0	31326	25 pcs./pal.
		600x600	32	18.7	52.0	31559	50 pcs./pal.
	FHB 38	1200x600	38	44.5	61.8	88635	20 pcs./pal.
		600x600	38	22.2	61.8	88636	40 pcs./pal.
	GIFAfloor LEP elements (load enhancement panels)						
	LEP 18	1200x600	18	21.1	29.3	99258	50 pcs./pal.
	GIFAfloor DB R green elements (access panels)						
	DB 34 R green	600x600	34	20.0	–	518872	30 pcs./pal.
	DB 42 R green	600x600	42	24.6	–	518875	25 pcs./pal..

Accessories

Material	Material number	Packaging unit	Consumption
Accessories			
Knauf Estrichgrund	5355	10 kg-bucket	Approx. 200 g
GIFAfloor edge insulation strip MW	109147	100 pcs/box	As required
Adhesives			
GIFAbond blue	676976	1200 ml bottle	Approx. 1 bottle/23 m ²
GIFAbond uno EC 1	741703	600 ml tubular bag	Approx. 1 tubular bag/8 m ²
GIFAbond duo EC 1	741704	ca. 15 kg-bucket	Approx. 1 bucket/21 m ²
GIFAfloor pedestal adhesive EC 1	260231	600 ml tubular bag	Approx. 15 ml/pedestal
GIFAfloor thread locker EC 1	776410	500 g bottle	Approx. 1 bottle/250 pedestals
Steel pedestals			
GIFAfloor pedetals M12S (head Ø 100 mm, foot Ø 60 mm)	View page 22	See price list	3.9 to 5.0 pieces
GIFAfloor pedestals M16S (Head Ø 90 mm, Foot Ø 98 mm)			
GIFAfloor pedestals M16ST (Head Ø 90 mm, Foot Ø 98 mm)	View page 23	See price list	3.9 to 5.0 pieces
GIFAfloor pedestals M20ST (Head Ø 90 mm, Foot Ø 98 mm; pipe 24 x 2 mm)			
GIFAfloor pedestals M20ST 3 (Head Ø 90 mm, Foot Ø 98 mm; pipe 24 x 3 mm)			
Gaskets			
GIFAfloor Gasket M12 without nubs	30097	150 pieces per box	3.9 to 5.0 pieces
GIFAfloor Gasket M16/M20 without nubs	30056	150 pieces per box	3.9 to 5.0 pieces
GIFAfloor Gasket M16/M20 with 4 nubs	30098	150 pieces per box	3.9 to 5.0 pieces
GIFAfloor PGR insulation pad	44135	400 pieces per box	3.9 to 5.0 pieces
Stringers			
GIFAfloor Stringer light	74336	Piece	As required
GIFAfloor Stringer heavy	74337	Piece	As required
GIFAfloor Traverse	37046	Piece	As required

Material	Material number	Packaging unit	Consumption
Access frames			
GIFAframe 25/34	30080	Piece	As required
GIFAframe 25/34 Transition profile 3 m	74345	Piece	As required
GIFAframe uno	139306	Piece	As required
GIFAframe uno Transition profile 3 m	139308	Piece	As required
GIFAframe uno Spacer kit	139307	Piece	As required
GIFAframe duo	139517	Piece	As required
GIFAframe duo Transition profile 3 m	142264	Piece	As required
GIFAframe edge connector	77808	Piece	As required
GIFAframe straight connector	77807	Piece	As required

Tools

Material	Material number	Packaging unit	Consumption
Knauf adhesive gun	4657	Piece	As required
GIFAtool Diamond (diamond tipped saw blade 160 x 2.2 / 1.6 x 20)	186326	Piece	As required

Working loads according to EN 1991-1-1/NA:2010-12 ¹⁾

Cat.	Utilization	Examples	kN ²
–	–	Non-accessible sills (Drempel)	–
A1	Attic space	Not suitable for residential purposes but accessible loft up to 1.80 m clearance	1.0
A3	Living rooms and lounges	Rooms and corridors in residential buildings, bedrooms in hospitals, hotel rooms incl. the corresponding kitchens and bathrooms	1.0
B1	Offices, working spaces and corridors	Corridors in office buildings, office areas, doctors practices without heavy equipment, waiting rooms, lounges including the corridors	2.0
B2		Corridors and kitchens in hospitals, hotels, retirement homes, corridors in boarding schools etc.; treatment rooms in hospitals including surgery rooms without heavy equipment; cellars in residential buildings	3.0
B3		Just like B1 and B2, but with heavy equipment	4.0
C1	Rooms, assembly rooms and areas that can be used for gatherings of persons (with the exception of categories specified under A, B, D)	Areas with tables, e.g. crèches, day nurseries, classrooms, cafes, restaurants, dining halls, reading rooms, reception rooms, staff rooms	4.0
C2		Areas with fixed seating, e.g. surfaces in churches, theatres or cinemas, congress rooms, auditoria, waiting rooms	4.0
C3		Freely walkable areas, e.g. museum and exhibition areas, entrance areas in public buildings and hotels as well as the corridors in utilization category C1 to C3	4.0
C4		Sports and play areas, dancing halls, sports halls, gymnastic rooms, power and weight training rooms, stages	7.0
C5		Areas for large gatherings of people, e.g. in buildings such as concert halls, terraces and entry areas as well as grandstands with fixed chairs	4.0
D1	Sales rooms	Areas in sales rooms up to 50 m ² space in residential, office and comparable buildings	2.0
D2		Areas in retail stores and department stores	4.0
D3		Areas similar to D2 but with increased point loads due to high storage shelves	7.0
E1	Workshops, factory halls and storerooms	Areas in factories and light-duty workshops	4.0
E2		General storage areas including libraries	7.0
E3		Areas in factories and workshops with medium and heavy-duty operation	10.0
T1	Stairs and stair landings	In residential buildings, office buildings and doctors surgeries without heavy equipment	2.0
T3		Entrances and steps from grandstands without fixed seating, serving as an escape route	3.0

1) In Eurocode 1: Part 1 – 1 General actions - Densities, self-weight, imposed loads for buildings, based on the above mentioned EN, is assumed from a load application by a square with an edge length of 50 mm.

2) The above mentioned assumed load capacities (individual loads / point loads) are “predominantly permanent (static) loads.”

■ If higher loads are intended for the use of the building, they are obligatory for the structural design of the GIFAfloor system selection.

Note	Knauf systems may only be used for the applications specified in the nKnauf documents. If third-party products or components are used, these must be recommended or approved by Knauf. COrrrect use of the products/systems requires proper transport, storage, installation, assembly and maintenance.
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Loading classes of hollow floors according to EN 13213¹⁾

Load class	Breaking load	Safety factor	Working load ²⁾
1	≥ 4 kN	2	2 kN
2	≥ 6 kN	2	3 kN
3	≥ 8 kN	2	4 kN
4	≥ 9 kN	2	4.5 kN
5	≥ 10 kN	2	5 kN
6	≥ 12 kN	2	6 kN

1) EN 13213 Hollow floors specifies the test methods and classifications of hollow floors.

In deviation from EN 1991-1-1/NA:2012-12 the test is carried out with a 25 x 25 mm indenter (intensified point load simulation) until the floor system fails at its weakest point without a floor covering.

2) The working load is calculated from the quotient of the breaking load and the safety factor.

Working loads [kN]

GIFAFloor FHB single-layer

GIFAFloor	FHB 25	FHB 28	FHB 32	FHB 38
Pedestals	S+R	S+R	S+R	S+R
Permissible working load	3.0 kN	4.0 kN	5.0 kN	6.0 kN
Load effect	Deformation of GIFAFloor FHB at the weakest point			
kN	mm			
7	–	–	–	–
6	–	–	–	2.3 ¹⁾
5	–	–	2.0	1.8
4	–	1.8	1.7	1.5
3	1.8	1.5	1.4	1.1
2	1.3	1.2	1.0	0.8
1	0.8	0.7 ²⁾	0.6 ²⁾	0.4

EN 13213 Hollow floors specifies the test methods and classifications of hollow floors. Surface load-bearing capacities should not be regarded as load-bearing properties. Only the „point load capacity“ is considered to be the relevant property.

The live loads of GIFAFloor hollow floors specified in the tables are the permissible point or individual loads. Live loads are variable, movable loads (e.g. people, furniture) that act on the GIFAFloor hollow floors. GIFAFloor hollow floors are suitable for dynamic loads. Proven by tests according to EN 13213 (safety factor 2) and application guideline of BVS issue 01/2021

1) Only according to breaking load criterion (increased value of deflection)

2) Interpolated values

Notes	<p>If moving loads such as pallet trucks, forklift trucks or similar are planned, the highest individual wheel load must be multiplied by the vibration coefficient φ to determine the working load.</p> <p>Point load to be applied = effective individual load x vibration coefficient φ</p> <p>Manually operated travelling devices Vibration coefficient $\varphi \geq 1,3$</p> <p>Motorised travelling devices Vibration coefficient $\varphi \geq 1,5$</p> <p>Pedestals:</p> <p>S = System grid of the pedestals 600 x 600 mm</p> <p>R = Additional pedestals in the centre between the edge pedestals of the system grid</p>
Notes	<p>For pedestal heights from approx. 500 mm, use light grid bars; for pedestal heights from approx. 800 mm, use heavy grid bars. The use of heavy grid bars in the edge area as an alternative to additional pedestals R in half the system grid dimension (300 mm) is only possible up to a working load of 5.0 kN (load class 5).</p> <p>The installation of insulating plates is possible up to and including a permissible working load of 6.0 kN.</p>

Working loads [kN]

GIFAFloor FHB double-layer

GIFAFloor	FHB 32 + LEP 18	FHB 38 + LEP 18	FHB 38 + FHB 38	FHB 38 + FHB 38
Pedestals	S+R	S+R	S+R	S+R+X
Permissible working load	9,0 kN	12,5 kN	15,0 kN	20,0 kN
Load effect	Deformation of GIFAFloor FHB at the weakest point			
kN	mm			
20	–	–	–	1.9
19	–	–	–	1.9
18	–	–	–	1.9
17	–	–	–	1.8
16	–	–	–	1.8
15	–	–	2.0	1.8
14	–	–	1.9	1.7
13	–	2.0 (at 12.5)	1.9	1.7
12	–	1.9	1.8	1.6
11	–	1.8	1.7	1.6
10	–	1.6	1.5	1.5
9	1.9	1.5	1.4	1.4
8	1.7	1.4	1.3	1.3
7	1.5	1.2	1.1	1.1
6	1.3	1.1	1.0	1.0
5	1.1	1.0	0.9	0.9
4	0.9	0.9	0.7	0.7
3	0.7	0.7	0.5	0.5
2	0.5	0.5	0.3	0.3
1	0.3	0.3	0.3	0.3

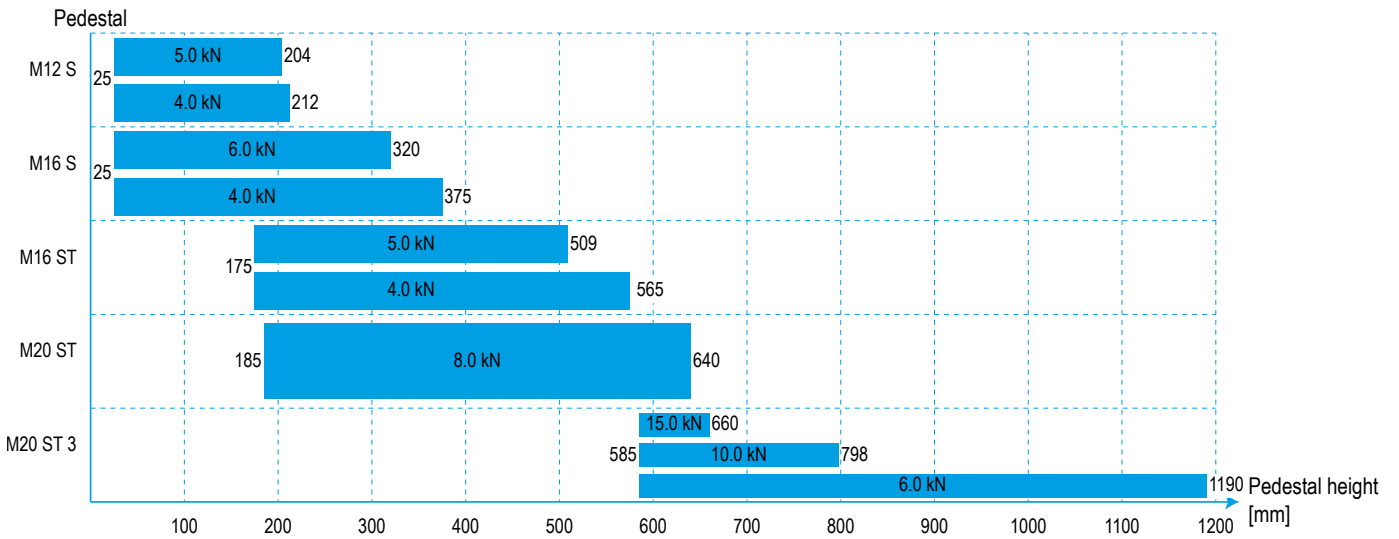
EN 13213 Hollow floors specifies the test methods and classifications of hollow floors. Surface load-bearing capacities should not be regarded as load-bearing properties. Only the „point load capacity“ is considered to be the relevant property.

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Notes	If moving loads such as pallet trucks, forklift trucks or similar are planned, the highest individual wheel load must be multiplied by the vibration coefficient φ to determine the working load.
	Point load to be applied = effective individual load x vibration coefficient φ <i>Manually operated travelling devices</i> Vibration coefficient $\varphi \geq 1,3$ <i>Motorised travelling devices</i> Vibration coefficient $\varphi \geq 1,5$ Pedestals: S = System grid of the pedestals 600 x 600 mm R = Additional pedestals in the centre between the edge pedestals of the system grid X = Additional pedestal in system grid center (ix the intersection of the diagonals of the system grid)

Hinweise	For pedestal heights from approx. 500 mm, use light grid bars; for pedestal heights from approx. 800 mm, use heavy grid bars. The use of heavy grid bars in the edge area as an alternative to additional pedestals R in half the system grid dimension (300 mm) is only possible up to a working load of 5.0 kN (load class 5). The installation of support plates is possible up to and including the permissible working load of 15.0 kN; alternatively, for loads > 15 kN, the pedestals heads are to be protected with PE adhesive tape (e.g. packing tape) before fixing the GIFAFloor joint adhesive. The installation of insulating plates is possible up to and including a permissible working load of 6.0 kN.
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Permissible working load of GIFAfloor pedestals depending on the pedestal height [kN]



Note

The permissible working load specifications are based on tests of the pedestals in accordance with EN 13213 and include a 4-fold safety factor.

Fire protection effect

GIFAfloor hollow floors protect the room above the GIFAfloor in the event of fire from the cavity; in the event of fire from top of the GIFAfloor. The load-bearing capacity of the bare floor is ensured for the duration of the classification.

Fire resistance classification

GIFAfloor FHB Thickness mm	Fire resistance duration minutes	Classification ¹⁾	Knauf Integral pedestals Type	Height mm
Fire retardant (F 30) Fire resistance in accordance with DIN 4102-2 (verification AbP P-BWU03- I 17.1.64)				
≥ 25	≥ 30	F 30	M16 S	≤ 385
			M16 ST	≤ 580
			M20 ST 2.0	≤ 580
			M20 ST 3.0	≤ 580
Fire retardant (F 30) Fire resistance in accordance with DIN 4102-2 (verification AbP P-MPA-E-14-013)				
≥ 28	≥ 30	F 30	M20 ST 2.0	≤ 600
			M20 ST 3.0	≤ 600
Fire retardant (F 30) Fire resistance in accordance with DIN 4102-2 (verification AbP P-BWU03- I 17.1.64)				
≥ 25 + ≥ 18	≥ 30	F 30	M16 S	≤ 385
			M16 ST	≤ 580
			M20 ST 2.0	≤ 580
			M20 ST 3.0	≤ 580
Highly fire retardant (F 60) Fire resistance in accordance with DIN 4102-2 (verification AbP P-MPA-E-14-013)				
≥ 32	≥ 60	F 60	M20 ST 2.0	≤ 600
			M20 ST 3.0	≤ 600
Highly fire retardant (F 60) Fire resistance in accordance with DIN 4102-2 (verification AbP P-MPA-E-14-003)				
≥ 25 + ≥ 18	≥ 60	F 60	M20 ST 3.0	≤ 500

1) For fire protection requirements, only Knauf edge insulation strips (A1. Melting point > 1000 °C) may be used as adge connections to rising components.

Fire resistance classification

GIFAfloor FHB Thickness mm	Fire resistance duration minutes	Classification ¹⁾	Knauf Integral pedestals	
			Type	Height mm
Fire retardant (REI 30) Fire resistance in accordance with EN 13501-2 (verification classification report 20191512/04)²⁾				
≥ 25	≥ 30	REI 30	M12 S	≤ 210
			M16 S	≤ 395
			M16 ST	≤ 580
			M20 ST 2.0	≤ 640
			M20 ST 3.0	≤ 1000
			M20 ST 3.0 with pedestal sheathing	≤ 1190
Highly fire retardant (REI 60) Fire resistance in accordance with EN 13501-2 (verification classification report 20191512/04)²⁾				
≥ 32	≥ 60	REI 60	M16 S	≤ 395
			M16 ST	≤ 580
			M20 ST 2.0	≤ 640
			M20 ST 3.0	≤ 1000
			M20 ST 3.0 with pedestal sheathing	≤ 1190
Highly fire retardant (REI 60) Fire resistance in accordance with EN 13501-2 (verification classification report 20191512/04)²⁾				
≥ 32 + ≥ 18	≥ 90	REI 60	M20 ST 2.0 with pedestal sheathing	≤ 640
			M20 ST 3.0 with pedestal sheathing	≤ 1190

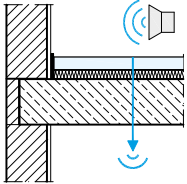
- 1) For fire protection requirements, only Knauf edge insulation strips (A1. Melting point > 1000 °C) may be used as edge connections to rising components.
- 2) Approval in individual cases must be applied for from the responsible building supervisory authority. We recommend that you consult with the persons and/or authorities responsible for fire protection prior to construction.

Notes on sound insulation

The vertical airborne sound insulation is provided by the solid raw ceiling and is positively influenced by the additional installation of a GIFAFloor hollow floor.

Standardised impact sound level $L_{n,w}$

The impact sound improvement factor ΔL_w indicates the improvement in impact sound insulation on a standardised ceiling.

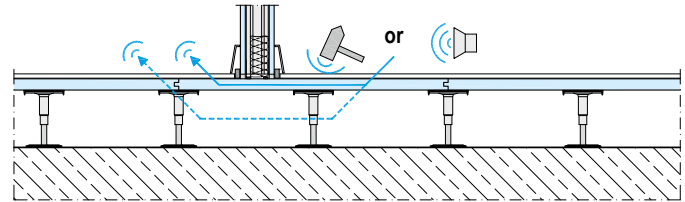


Standardised edge impact sound level $L_{n,f,w}$

The standard flank impact sound level $L_{n,f,w}$ indicates the impact sound transmission via the hollow floor construction from one room to the neighbouring room. The lower the weighted standardised flank impact level $L_{n,f,w}$ is, the better the horizontal impact sound insulation of the installed hollow floor.

Standard flank level difference $D_{n,f,w}$

The standard flank level difference $D_{n,f,w}$ indicates the airborne sound transmission via the hollow floor construction from one room to the neighbouring room. The higher $D_{n,f,w}$ the better the horizontal airborne sound insulation of the installed hollow floor.



Sound insulation

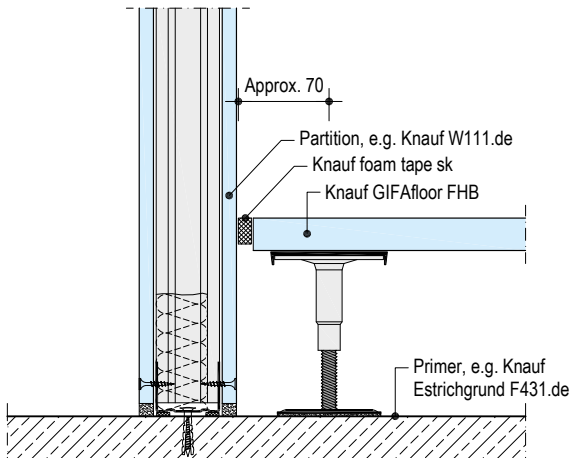
GIFAFloor FHB F18.de	Standardised flank level differences, standardised flank impact sound level and impact sound improvement factors (VM) on solid ceilings	Structure with joint and bulkhead				
		Without covering	With covering			
			VM 18 dB	VM 24dB	VM 27 dB	VM 30 dB
GIFAFloor FHB single-layer F181.de						
FHB 25	Standardised flank level difference $D_{n,f,w}$ [dB]	58	58	58	57	58
	Standardised flank impact sound level $L_{n,f,w}$ [dB]	59	48	46	44	38
	Impact sound improvement factor ΔL_w [dB]	19	24 ⁴⁾	28 ⁵⁾	28	32
FHB 28	Standardised flank level difference $D_{n,f,w}$ [dB]	52	–	–	53 ⁶⁾	–
	Standardised flank impact sound level $L_{n,f,w}$ [dB]	60	–	–	41 ⁶⁾	–
	Impact sound improvement factor ΔL_w [dB]	16	24	26	26	31
FHB 32	Standardised flank level difference $D_{n,f,w}$ [dB]	58	58	57	57	57
	Standardised flank impact sound level $L_{n,f,w}$ [dB]	55	37	35	34	31
	Impact sound improvement factor ΔL_w [dB]	21	30 ⁴⁾	–	–	34
FHB 38	Standardised flank level difference $D_{n,f,w}$ [dB]	56 ²⁾	–	–	–	55 ²⁾
	Standardised flank impact sound level $L_{n,f,w}$ [dB]	47 ²⁾	–	–	–	39 ²⁾
	Impact sound improvement factor ΔL_w [dB]	18	26	28	29	33
GIFAFloor FHB double-layer F182.de						
FHB 32+18	Standardised flank level difference $D_{n,f,w}$ [dB]	62	60	60	58	61
	Standardised flank impact sound level $L_{n,f,w}$ [dB]	52	36	34	32	28
	Impact sound improvement factor ΔL_w [dB]	22	31 ⁴⁾	34 ⁵⁾	–	38
FHB 38+18	Standardised flank level difference $D_{n,f,w}$ [dB]	54 ³⁾	–	–	–	54 ³⁾
	Standardised flank impact sound level $L_{n,f,w}$ [dB]	45 ³⁾	44 ^{3) / 4)}	40 ^{3) / 7)}	–	38 ³⁾
	Impact sound improvement factor ΔL_w [dB]	21 ³⁾	25 ^{3) / 4)}	29 ^{3) / 7)}	–	35 ^{3) / 8)}

- 1) Tested with 5 mm PGR pad and PE gasket
- 2) Tested without 5 mm PGR pad with lower pedestals
- 3) Tested with lower pedestals
- 4) With covering VM 19 dB
- 5) With covering VM 25 dB
- 6) With covering VM 28 dB
- 7) With covering VM 23 dB
- 8) With covering VM 31 dB

Details

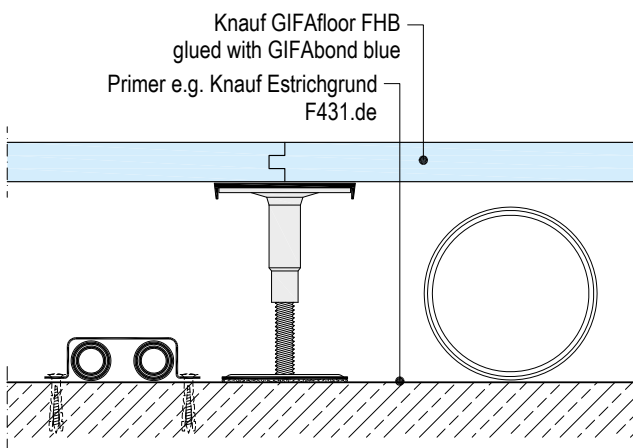
F181.de-V1 Connection to stud wall

Without fire protection



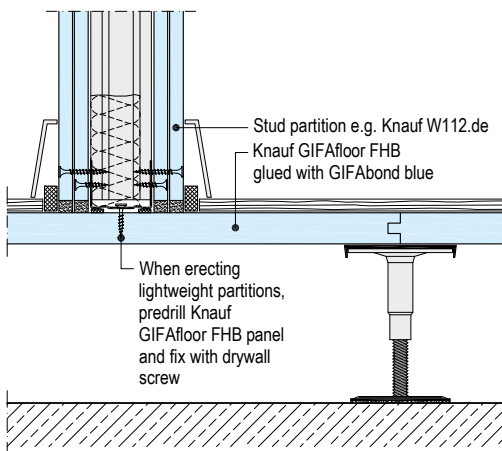
F181.de-V3 Utilisation of the cavity for installations

Without fire protection



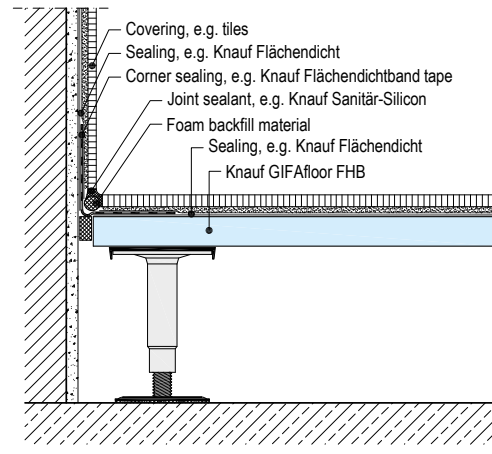
F181.de-V8 Partition wall on GIFAfloor FHB – W112.de

Without fire protection



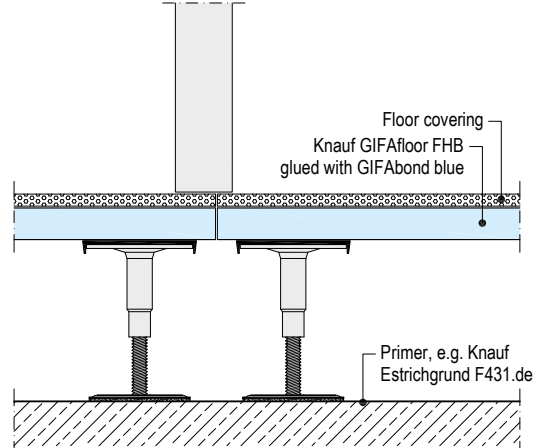
F181.de-V2 Connectino to solid wall

Without fire protection



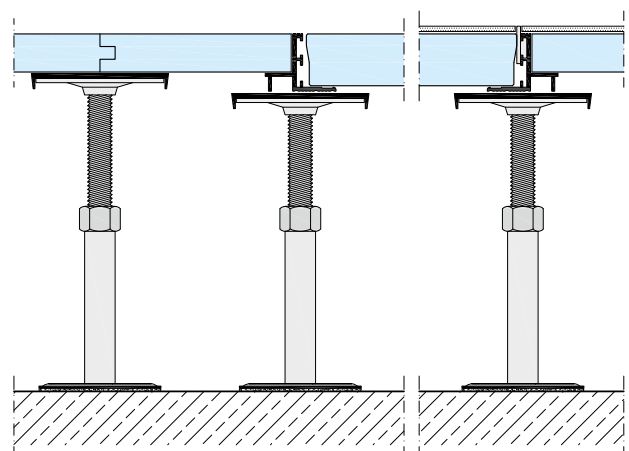
F181.de-V9 Joint arrangement under door leaf

Without fire protection



F181.de-V13 Installatin of access frame / transition profile

Without fire protection

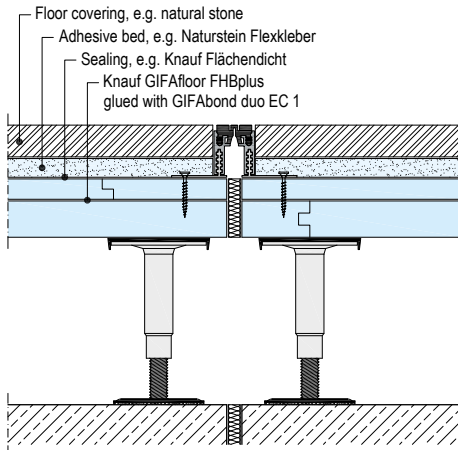


Details

Dimensions 1:5 l in mm

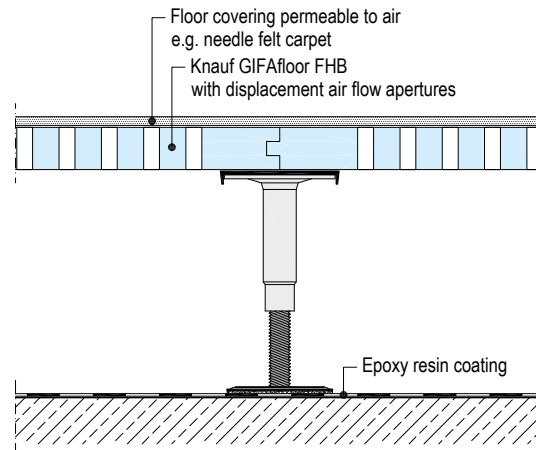
F182.de-V8 GIFAfloor FHBplus 32+18 installation movement joint

Without fire protection



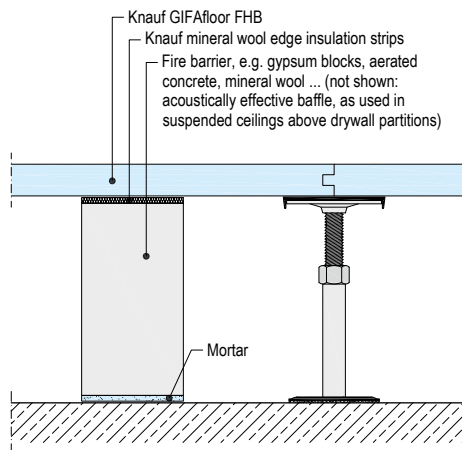
F181.de-V7 Version with displacement ventilation elements

Without fire protection



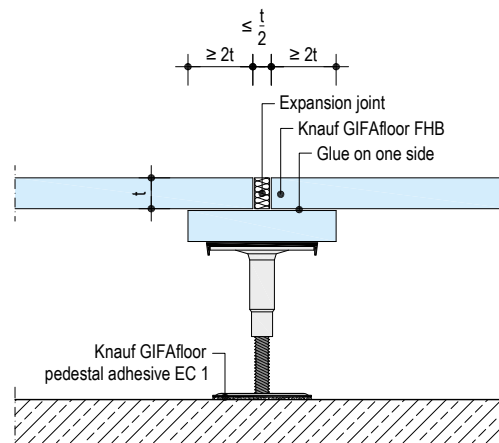
F181.de-V6 Compartmentalisation

Fire protection



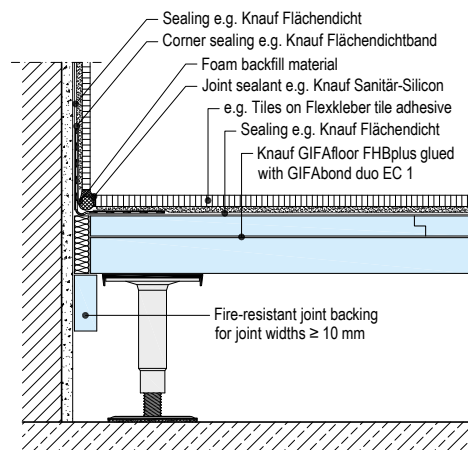
F181.de-V11 Joint with required fire protection underlay

Fire protection



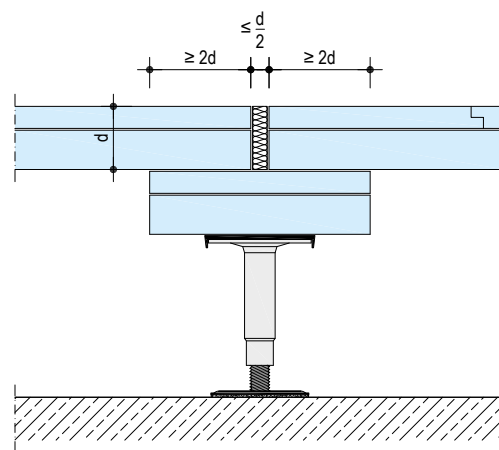
F182.de-V2 GIFAfloor FHBplus 32+18 Connection to solid wall

Fire protection



F182.de-V10 Joint with required fire protection underlay

Fire protection



Planning and arrangement of joints (schematic drawings)

Every building material, every building component and every building structure changes its size with changing climatic conditions. Movements also occur in the building component (e.g. permissible deflections) and in the building structure (e.g. building settlement) due to the dead weight of the building materials used and additional loads. Joints are therefore required and must be planned. The joints must always be located where cracks are to be expected.

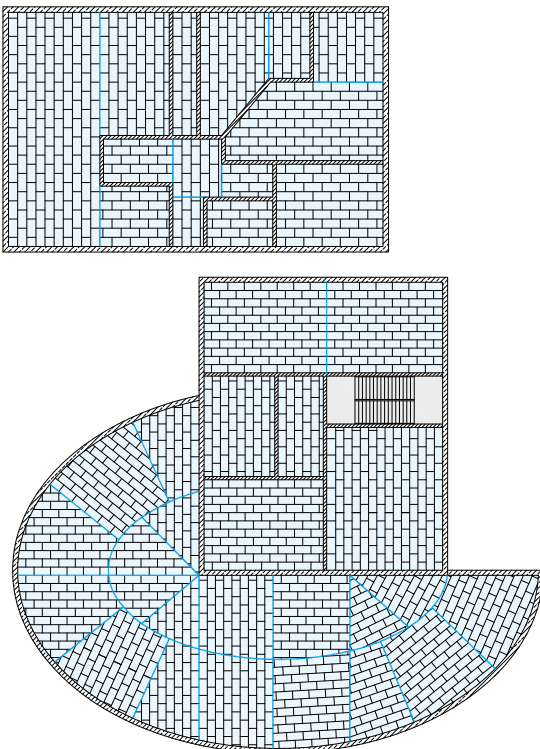
There are different types of joints in construction:

- Building separation joints divide a building into individual sub-buildings. These joints must be used in all building components at this point.
- Component expansion joints (expansion joints) divide components into areas that form a single unit and can absorb any changes in length without damage. These joints must be taken over by subsequent trades in all components at the same point. Transition joints must be arranged within a component when the building material is changed. Depending on the location, they can also be designed as hairline joints in some cases.
- Edge connection joints must be planned and executed at all ends of a component. They can take on the function of expansion joints. For example, they must be continued as a joint of sufficient width in the area of doorways. If the direction of the edge connection joint changes, e.g. for L-shaped and U-shaped surfaces, it is usually necessary to continue the joint as an expansion joint in at least one alignment.
- Acoustically effective separations within components (in short: separation cut/decoupling cut/separation joint) detach sections from a component and change its geometry, which must be taken into account when planning expansion joints.

Use the joints to create partial areas that are as compact as possible, i.e. the closer the resulting partial areas correspond to a 1:1 edge ratio (= square), the larger the areas can be. In the case of asymmetrical surfaces (e.g. trapezoidal shape), particular care must be taken with the joint design. The long edges are decisive here.

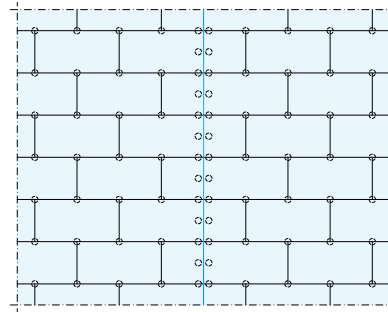
The joint design (profile) must have the load-bearing capacity of the hollow floor at every point.

Principle sketches joints arrangement without scale



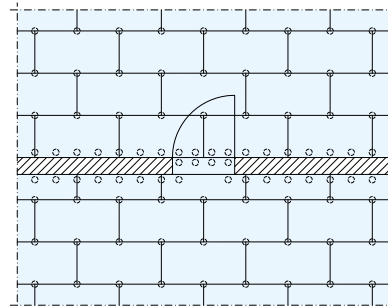
Arrangement of expansion joints

Half the distance between the pedestals as in the edge area (illustration with double row of pedestals).



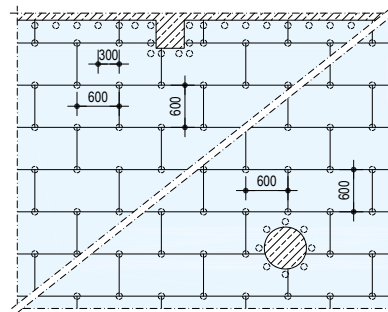
Arrangement of separation joint in door area

Reinforcement of the passage area of a door with additional pedestals at the required separation joint.



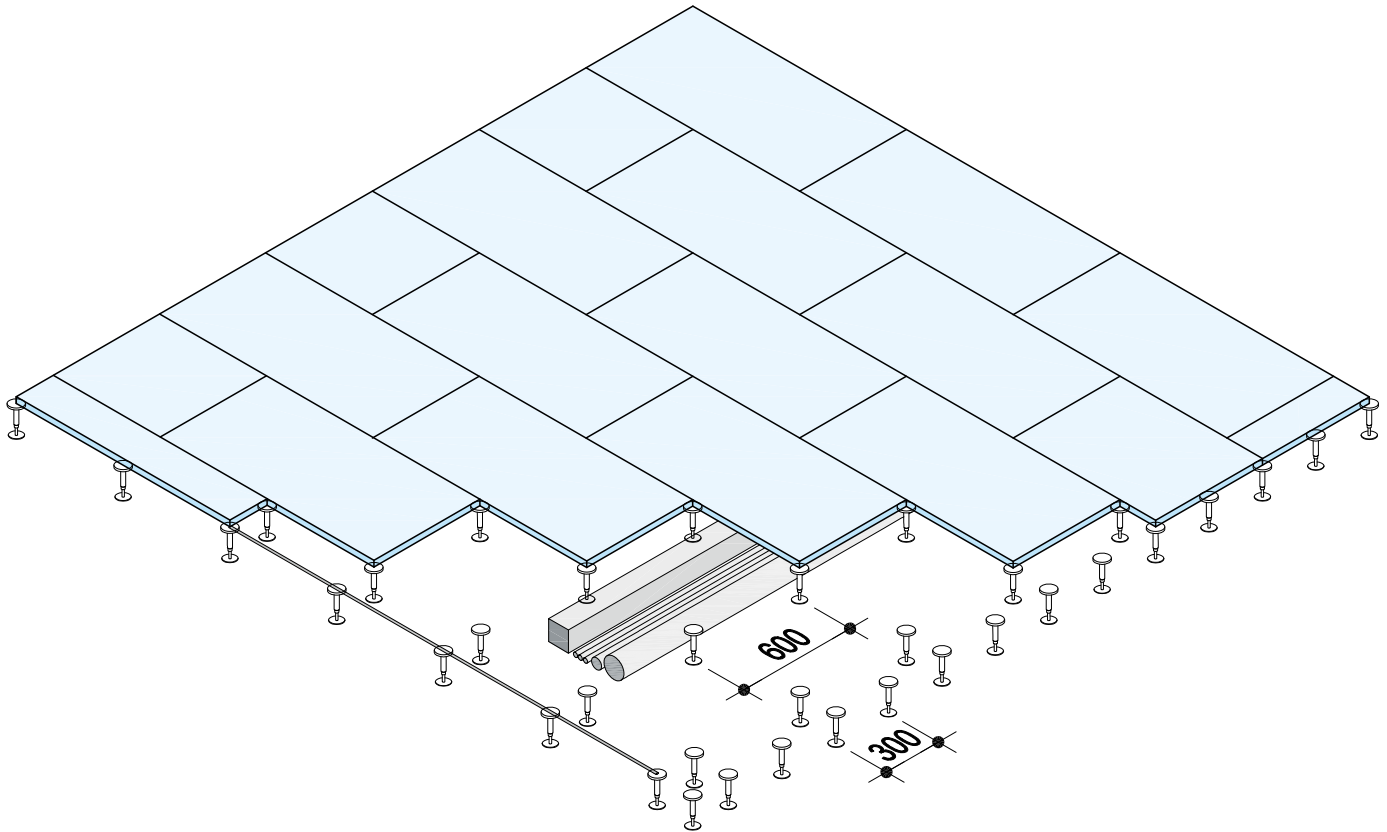
Pedestal arrangements

Pedestal arrangements, e.g. edge area or for rising components.



Note Recommended maximum square area without expansion joint 15 m x 15 m.

Pedestal arrangement

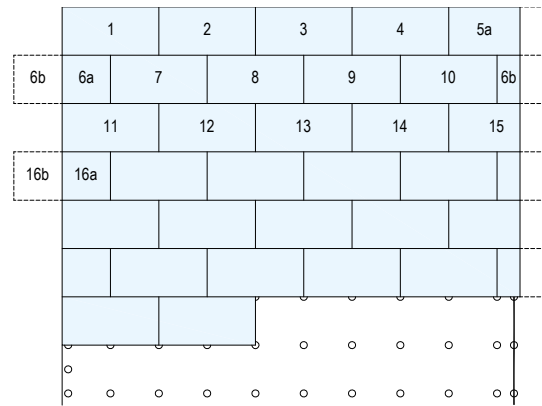


Note In the edge area, always place additional pedestals R in half the system grid dimension (300 mm) or alternatively up to a working load of 5.0 kN (load class 5) heavy grid rods.

Laying plan with utilisation of the cut-off in the next row



Laying plan with utilisation of the cut-off in the same row



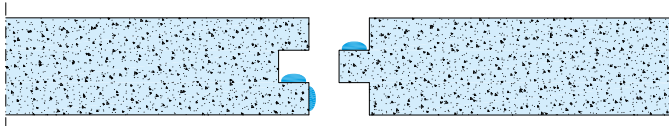
Priming the unfinished floor (schematic drawings)

Prime with Knauf Estrichgrund (see F431.de). Apply with a roller
Consumption: approx. 150 g/m².

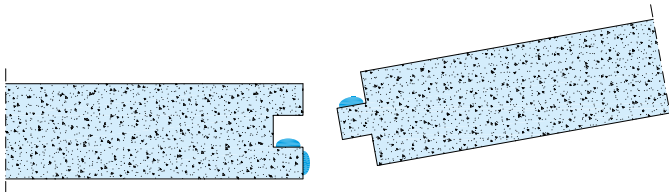


Bonding the elements

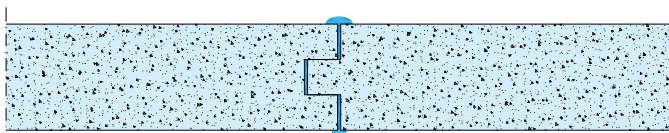
Apply adhesive to the tongue and to the front edge of the groove.



Laying sequence: Insert the tongue into the horizontal groove.



Leaking adhesive shows sufficient quantity.



Cutting panels



Carbide-tipped jigsaw blades e.g.:

- Bosch T140 HM
- Bosch T340 HM
- DeWalt DT 2103-QZ
- DeWalt DT 2056-QZ
- Festool HM 75/4,5
- Milwaukee 75x4.2 mm T141 HM
- Milwaukee 105x4.2 mm T341 HM

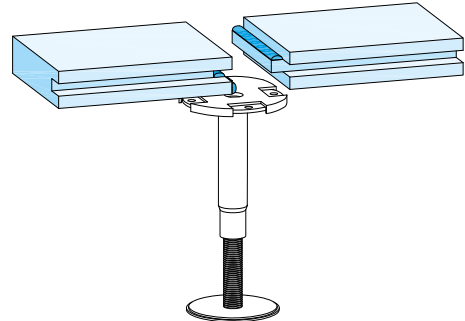
Notes

Cutting panels with GIFAtool diamond and hand-held circular saw or pendulum action jigsaw.
Detailed information in [Assembly guide F181-A01.de](https://www.knauf-ceiling.com/assembly-guide/F181-A01.de)

Bonding the elements

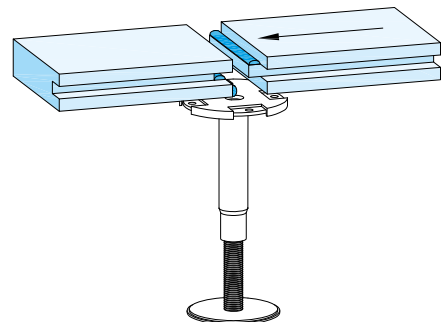
Element joint support

Work step 1: Centre the panel joint on the pedestal. Apply adhesive to the front edge of the groove and to the tongue (see right).



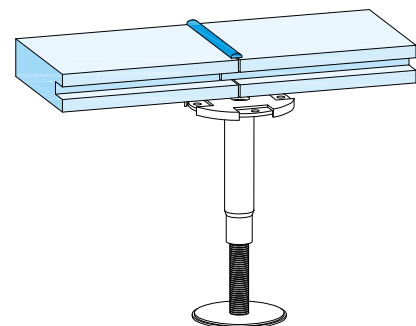
Installation order

Work step 2: Insert tongue in the horizontal groove.



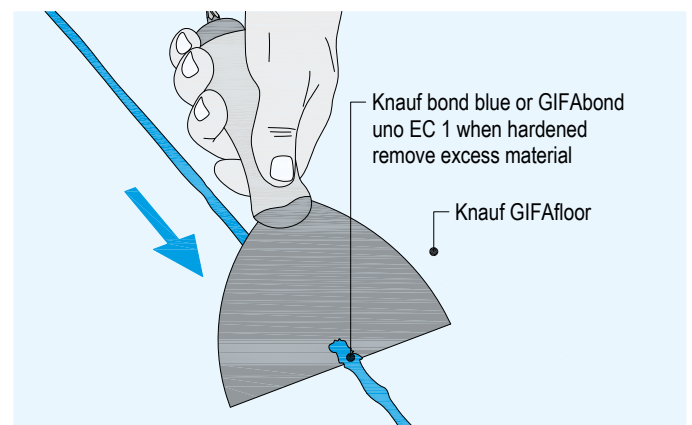
Sufficient adhesive application Klebstoffauftrag

Work step 3: Adhesive leaking at the top and bottom indicates sufficient adhesive application.

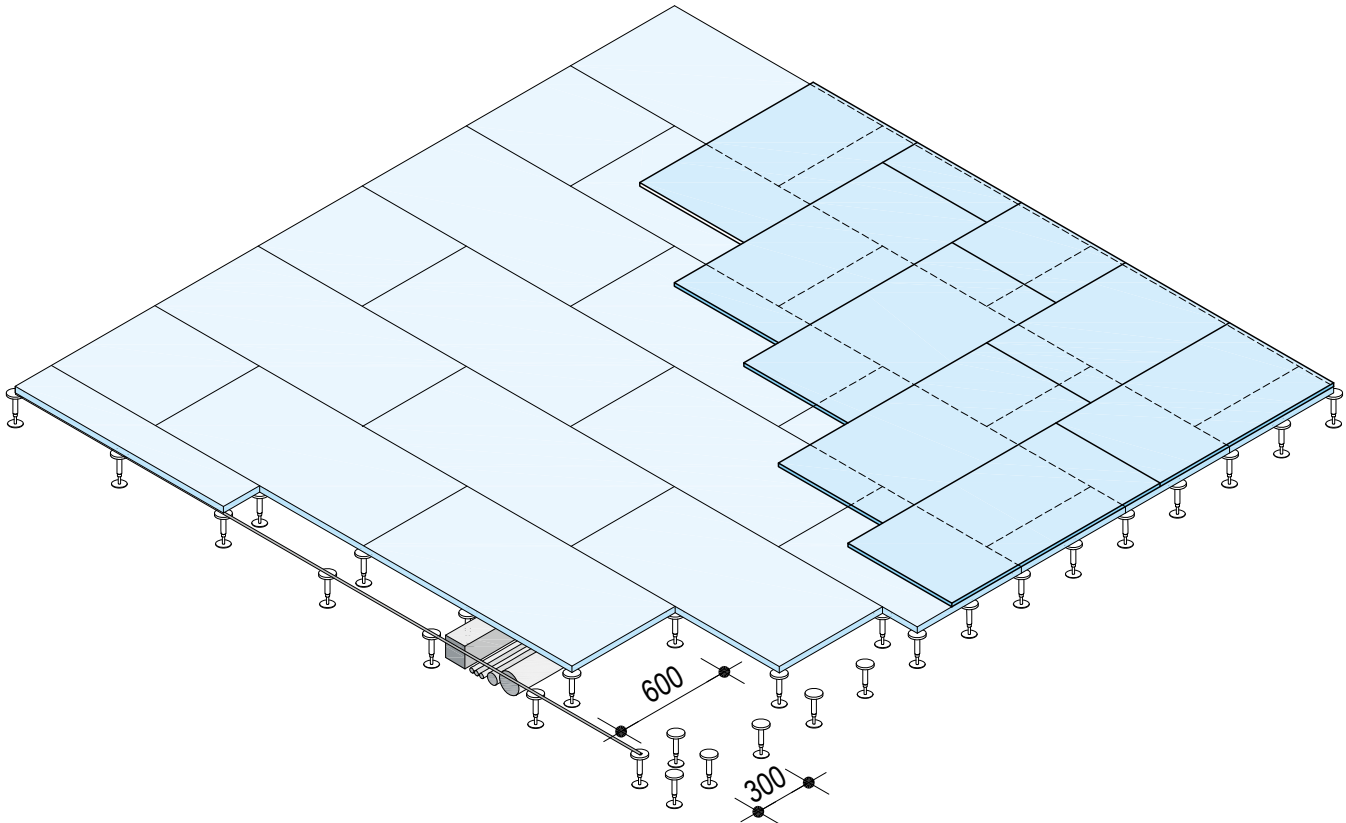


Chip adhesive

Work step 4: Remove the hardened adhesive, e.g. with a sharp spatula.

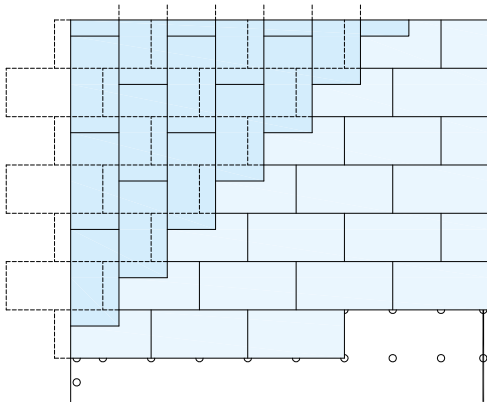


Pedestal arrangement

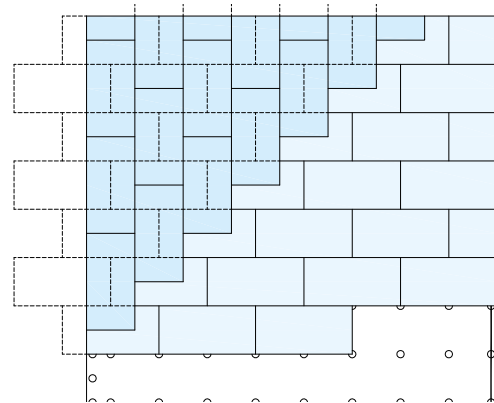


Note In the edge area, always place additional pedestals R in half the system grid dimension (300 mm) or alternatively up to a working load of 5.0 kN (load class 5) heavy grid rods.

Joint offset of the second layer at least 20 cm



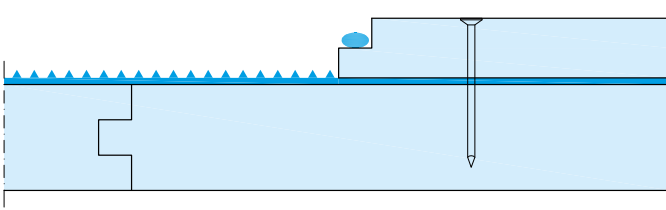
Optimum joint offset of the second layer 30 cm



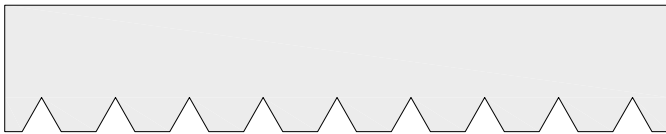
Laying 2nd layer (schematic drawings)

Adhesive application

Apply system adhesive over the entire surface using TKB B3 toothed strip and on lapped edge.

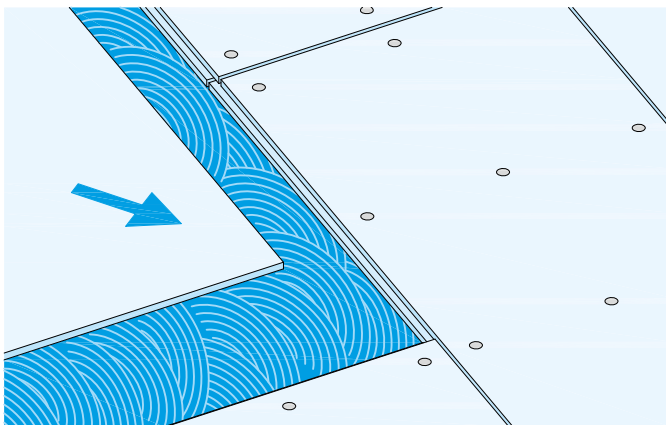


Cut out toothed strip TKB B3

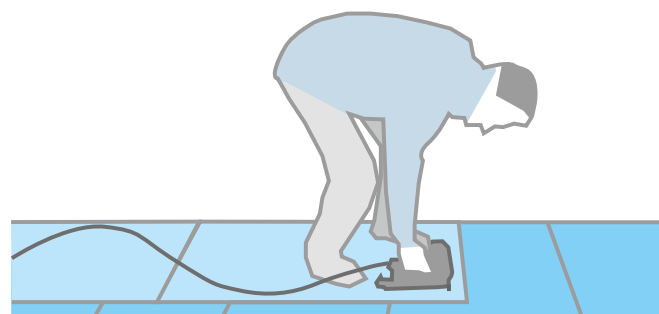


Bonding the elements

Position LEP element and nail it under load.



Nailing upright on the element to be fastened.

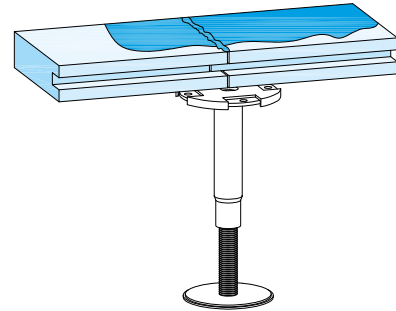


Pneumatic nailer: e.g. Upright nailer Paslode FN 1665.1 (operating pressure: 8.0 bar); nails e.g.: Paslode F16x29 mm or Haubold SKN 16/30 C NK or SKN 16/25 C NK;

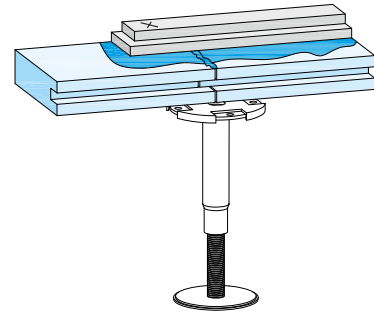
Gas impulse nailer: e.g. ITW impulse nailer IM65F 16 B-pack 19 – 64 mm; nails e.g. pack F16 – 25 mm (fuelcells + galv. brads) nail spacing ≤ 30 cm.

Installation order

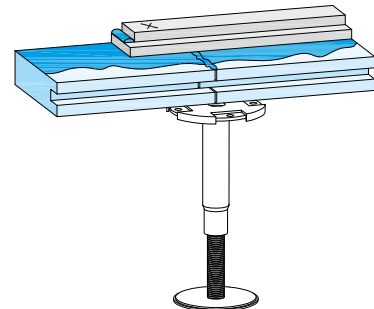
Work step 1: Apply adhesive to the entire surface.



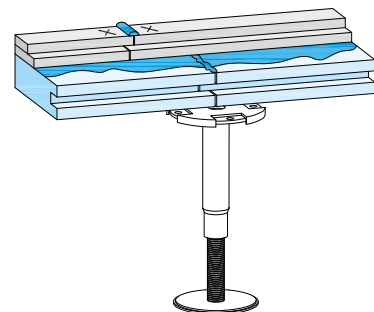
Work step 2: Insert and fix the LEP element in the adhesive bed.



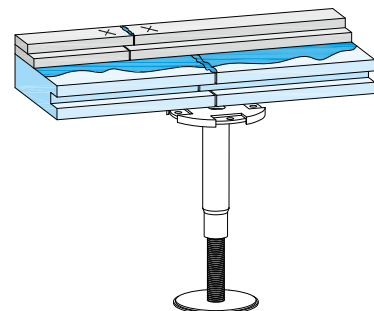
Work step 3: Apply adhesive for subsequent element.



Work step 4: Inserting and fixing the next element.



Work step 5: Remove hardened adhesive e.g. with a sharp spatula.



Pedestals

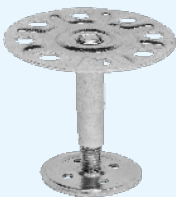
Screw pedestals


GIFAFloor screw pedestals M12 S or M16 S are made of galvanised steel. The foot part consists of an M12 or M16 threaded rod with foot plate. The head section consists of a tube with an internal thread and a welded-on head plate. The height of the screw pedestals is adjusted by turning the pedestal head. Minimum screw-in depth (= thread length of the tube) 15 mm.

Plug pedestals

GIFAFloor plug pedestals M16 ST and M20 ST are made of galvanised steel. The foot part consists of a tube with a welded-on foot plate. The head section consists of an M16 or M20 threaded rod with a welded-on head plate. The height is adjusted by means of the screw nut resting on the tube. Minimum insertion depth of the threaded rod tube is 20 mm.

Product range

Description	GIFAFloor screw pedestal M12 S Head Ø 100 mm. Foot Ø 60 mm	Adjustment range mm	Packaging unit Pieces/box	Article number	EAN
	SH 28	25 to 28	150	74367	4003982258854
	SH 35	30 to 36		74351	4003982258861
	SH 50	40 to 53		74352	4003982258793
	SH 56.5	44 to 64		74353	4003982258809
	SH 71.5	54 to 81		74355	4003982258816
	SH 80	61 to 91		74356	4003982193643
	SH 95	70 to 112	100	74358	4003982258878
	SH 120	91 to 144		74360	4003982258823
	SH 145	112 to 175		74364	4003982258830
	SH 170	121 to 212		74366	4003982258847

Description	GIFAFloor screw pedestal M16 S Head Ø 90 mm. Foot Ø 98 mm	Adjustment range mm	Packaging unit Pieces/box	Article number	EAN
	SH 32.5	25 to 30	90	41191	4003982260055
	SH 37.5	30 to 40		74368	4003950088339
	SH 45	35 to 47		74369	4003982258885
	SH 60	46 to 56	72	74370	4003982258892
	SH 67.5	50 to 57		74371	4003982258908
	SH 77.5	60 to 75		74372	4003982258915
	SH 97.5	70 to 105		74374	4003982258939
	SH 112.5	80 to 125	68	74376	4003982258953
	SH 157.5	120 to 175		74380	4003982258977
	SH 182.5	150 to 195		74382	4003982258991
	SH 202.5	170 to 215	44	74381	4003982258984
	SH 232.5	200 to 245		74383	4003982224989
	SH 262.5	230 to 275		41192	4003982260048
	SH 287.5	250 to 305		99197	4003982259004
	SH 322.5	290 to 335		99199	4003982259028
SH 357.5	320 to 375	99200		4003982259042	

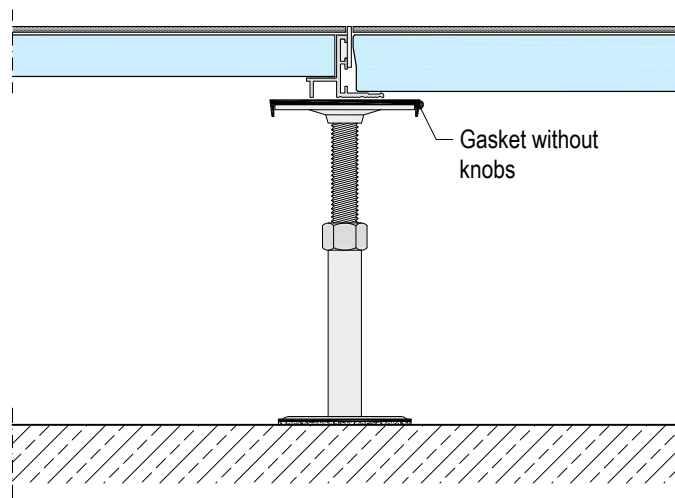
Product range

Description	GIFAfloor plug pedestal M16 ST Head Ø 90 mm. Foot Ø 98 mm	Adjustment range mm	Packaging unit Piece	Article number	EAN
	SH 202.5	175 to 230	As required	74391	4003982259684
	SH 252.5	225 to 280		74396	5413503561278
	SH 302.5	275 to 330		74401	4003982259035
	SH 352.5	325 to 380		74405	4003982259691
	SH 402.5	375 to 430		74411	4003982259707
	SH 452.5	425 to 480		74392	4003982532886
	SH 502.5	475 to 530		74393	4003982443458
	SH 552.5	525 to 580		74394	4003982443472
Description	GIFAfloor plug pedestal M20 ST Head Ø 90 mm. Foot Ø 98 mm	Adjustment range mm	Packaging unit Piece	Article number	EAN
	SH 212.5	185 to 240	As required	74412	4003982259738
	SH 262.5	235 to 290		74413	4003982259745
	SH 312.5	285 to 340		74414	4003982259752
	SH 362.5	335 to 390		74415	4003982259769
	SH 412.5	385 to 440		74416	4003982259776
	SH 462.5	435 to 490		74417	4003982259783
	SH 512.5	485 to 540		74418	4003982259790
	SH 562.5	535 to 590		74419	4003982259806
Description	GIFAfloor plug pedestal M20 ST 3 Head Ø 90 mm. Foot Ø 98 mm	Adjustment range mm	Packaging unit Piece	Article number	EAN
	SH 612.5	585 to 640	As required	585924	4003982532893
	SH 662.5	635 to 690		585925	4003982308443
	SH 712.5	685 to 740		585929	4003982532909
	SH 762.5	735 to 790		585930	4003982532916
	SH 812.5	785 to 840		585932	4003982532923
	SH 862.5	835 to 890		585933	4003982532930
	SH 912.5	885 to 940		585934	4003982532947
	SH 962.5	935 to 990		585935	4003982532954
	SH 1012.5	985 to 1040		652272	4003982559395
	SH 1062.5	1035 to 1090		585936	4003982532961
	SH 1112.5	1085 to 1140		784522	4003982556158
	SH 1162.5	1135 to 1190		585937	4003982532978

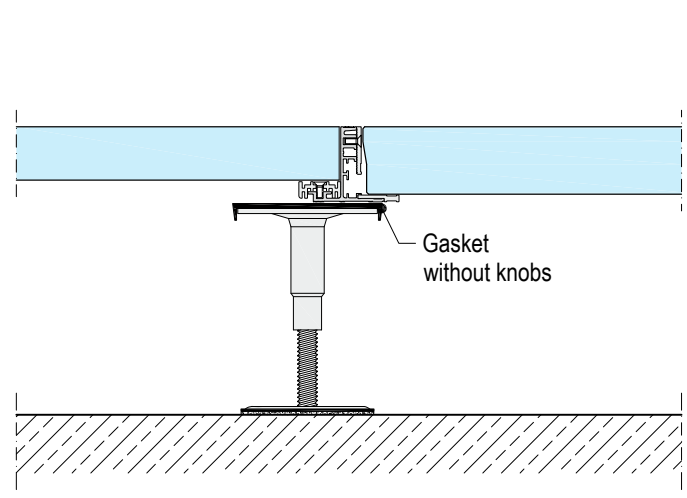
Access frame for single-layer GIFAfloor FHB systems

GIFAfloor FHB F181.de:	GIFAfloor access frame types	Details GIFAframe		
		GIFAfloor DB R green elements (access panels)	Cut-out dimensions	
			Length mm	Width mm
FHB 25	GIFAframe 25/34	GIFAfloor DB 34 R green	624	624
FHB 28	GIFAframe uno	GIFAfloor DB 42 R green	623	623
FHB 32				
FHB 38				

Access frame GIFAframe 25/34 for FHB 25 with flooring separator strip (BTL) and access panel GIFAfloor DB 34 R green



Access frame GIFAframe uno for FHB 32 with flooring separator strip (BTL) and access panel GIFAfloor DB 42 R green



Access frame for double-layer GIFAfloor FHB systems

GIFAfloor FHB F182.de:	GIFAfloor access frame type	Details GIFAframe		
		GIFAfloor DB R green elements (access panels)	Cut-out dimensions	
			Length mm	Width mm
FHB 32+18	GIFAframe duo	GIFAfloor DB 42 R green	624	624
FHB 38+18				

Construction

Knauf GIFAfloor FHB hollow floor elements are made of Knauf GIFAtec gypsum fibre material in 25, 28, 32 or 38 mm thickness, with tongue and groove edging. The LEP elements for the 2nd layer in F182.de have a thickness of 18 mm and have a lapped edging. The bonding of the element edges for single-layer systems F181.de is carried out with Knauf GIFAbond blue, for double-layer systems F182.de with GIFAbond uno EC 1. The GIFAfloor FHB elements are installed floating on height-adjustable hollow floor pedestals.

The pedestals are bonded to the cleaned, primed and sufficiently load-bearing substrate with Knauf GIFAfloor Stützenkleber EC 1. The system floor is suitable for underfloor heating or cooling (see Knauf Integral TI Klima). Building services installations of all kinds can be installed anywhere in the cavity of the hollow floor. Lightweight, non-load-bearing partition walls can be installed anywhere on the GIFAfloor FHB hollow floor (see p. 6). Joints must be planned with regard to their width, arrangement and design (see Planning and arrangement of joints on p. 11).

Substrate

The substrate must have the minimum load-bearing capacity for the load transfer via the pedestals to be used. The unfinished floor must be solid, dry and free of separating agents such as bitumen, oils or paints. Insulating materials and bitumen sheets are usually only suitable for supporting hollow floors if the load distribution increases the load-bearing capacity sufficiently. Thoroughly sweep and vacuum the unfinished floor, prime the unfinished floor surface with e.g. Knauf Estrichgrund F 431. Take over building expansion joints at the same point in the hollow floor. Mark the pedestal positions of the first row, fix each pedestal base to the substrate with approx. 15 ml Knauf GIFAfloor pedestal adhesive EC 1. Then, align precisely e.g. using a laser or a spirit level to a tenth of a millimetre. In all edge areas: pedestal centre distance approx. 70 mm from the panel edges.

Installation

Fix edge insulation strips or sealing tape to the connecting components. Place the support plates or insulation plates on the pedestals, fix the threads of the pedestals with Knauf GIFAfloor thread locker EC 1. Additional pedestals R in all edge areas, alternatively heavy grid rods up to a working load of 5.0 kN. Mount the second row of pedestals or if required the X pedestals for the first GIFAfloor FHB element as described. Cut off at least the tongue of the first element, place element on the prepared pedestals and press it against the edge insulation strips. Cut the GIFAfloor FHB elements to size using e.g. a (hand held) circular saw with diamond-tipped saw blade and suction device or e.g. a pendulum action jigsaw / construction band saw with carbide-tipped saw blade.

For the second and subsequent elements of the first row, cut off the tongue in the wall connection area and apply adhesive as shown on p. 19. Join the elements immediately, press them together and align them flush. Install the second and subsequent rows of panels, each offset by half a panel length. Adhesive leaking from the top and the bottom of the joints indicates sufficient application and can be removed the next day, e.g. with a sharp spatula.

The GIFAfloor LEP elements of the 2nd layer are rotated by 90°, laid with joints and bonded to the first layer and to each other with Knauf GIFAbond duo EC 1. They are fixed immediately after insertion into the adhesive bed as shown on p. 21 using compressed air or impulse nailing.

The edge insulation strips for the end joints are inserted after the last panels on a row have been installed.

Do not walk on the installed floor for approx. 12 hours. The flooring system is fully load-bearing after approx. 24 Stunden (setting time of the adhesive).

Surface treatment and coverings

Chair castor resistance

GIFAFloor FHB is chair castor resistant without any additional measures.

Panel joints

If necessary, fill panel joints with Knauf Uniflott.

Priming

Prime GIFAFloor FHB with Knauf Estrichgrund (diluted 1:1 with water) or Knauf Schnellgrund (undiluted) before laying the covering and before leveling the entire surface. System-related priming specifications in the adhesive manufacturer's recommendations must be observed.

Note

Always incorporate the separation, expansion, movement and connection joints of the GIFAFloor in the floor covering.

Carpets

If necessary, level with Knauf Uniflott.

Elastic thin coverings

For elastic thin coverings (e.g. PVC, linoleum), level the entire surface of GIFAFloor FHB with N 410 to a thickness of at least 2 mm. First fill panel joints with Uniflott and then prime the entire surface with Knauf Estrichgrund (1:1) or Knauf Schnellgrund (undiluted).

Ceramic tiles and natural stone coverings

Use flexible adhesive systems. Preferably install on double-layer GIFAFloor FHB systems F182.en. The adhesive system manufacturer's instructions for the covering formats used, in particular the specified minimum adhesive bed thicknesses, must be observed. Ceramic tiles must be laid using the buttering and floating method / combined method, pushing and pressing tiles sideways into the adhesive bed. Fabrics or fleeces belonging to the adhesive system must be installed in accordance with the manufacturer's instructions. If the permissible deflections due to expected loads on the GIFAFloor are greater than the deformations that can be absorbed by the floor covering, the necessary additional measures must be planned. To further limit these deflections, install e.g. larger element thicknesses and/or e.g. additional pedestals X, arranged in the grid field centres.

Large format floor tiles and natural stone can be laid on GIFAFloor FHB up to 120 cm edge length. Installation recommendations from different adhesive manufacturers are available after consultation with Knauf.

Moisture protection in damp rooms

For surfaces exposed to water in domestic bathrooms and kitchens, carry out full surface sealing with Knauf Flächendicht, wall connections with Knauf Flächendichtband.

Parquet flooring

Floating installation of parquet or parquett thickness $\leq 2/3$ of the GIFAFloor thickness, the installation instructions of the parquet and adhesive system manufacturer for the selected parquet type must be observed. Installation recommendations from different adhesive manufacturers, with which other types of parquet can also be installed, are available after consultation with Knauf.

Liquid coatings

Liquid coatings such as filled epoxy resin coatings must be elasticised and, depending on the manufacturer, permeable to water vapour.

Check the adhesive tensile strength of the covering / adhesive system to the GIFAFloor FHB (if necessary, prepare a sample.). Installation recommendation from coating manufacturers are available after consultation with Knauf..

Sustainability and environment

Description	Value	Unit
Requirements acc. to AgBB-scheme for indoor use	Complies	–
French emission class	A+	–
IBR Award certificate	Tested and recommended	–
Eurofins Indoor Air Comfort Gold	Complies	–
Post-Consumer recycling share (mean value)	Approx. 10	%
Pre-Consumer recycling share (mean value)	Approx. 40	%
Environmental Product Declaration	EPD - IBU	EPD-KNA-20220095-CAB3-EN
	FDES - Inies	20220930847

Information on sustainability of Knauf GIFAfloor

Building assessment systems ensure the sustainable quality of buildings and structural facilities through a detailed evaluation of ecological, economic, social, functional and technical aspects.

In Germany, the following certification systems are particularly relevant:

- **DGNB System**
German seal of quality for sustainable building of the DGNB (German Sustainable Building Council)
- **BNB**
(Sustainable Building Rating System)
- **LEED**
(Leadership in Energy and Environmental Design).

Knauf products and Knauf access flooring materials can positively influence numerous criteria here.

DGNB/BNB

Ecological quality

- *Criterion: Life cycle assessment of the building*
Relevant environmental data are provided in the EPD.
- *Criterion: Risks for the local environment*
Building material Gypsum as an ecological material

Economic quality

- *Criterion: Building-related costs in the life cycle*
Economic Knauf dry construction

Technical quality

- *Criteria: Deconstruction and recyclability*
Possible with Knauf dry construction

LEED

Materials and Resources

- *Building Life-Cycle Impact Reduction*
Relevant data are provided in the EPD.
- *Environmental Product Declarations*
Relevant data are provided in the EPD.
- *Scourcing of Raw Materials*
Recycled content in Knauf GIFAfloor.

Indoor Environmental Quality

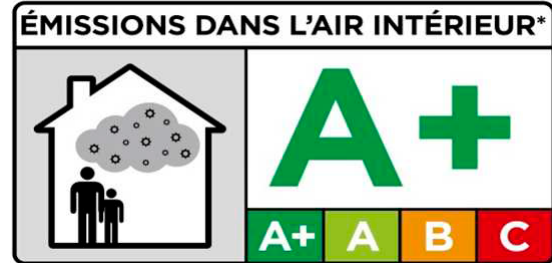
- *Low Emitting Materials*
Knauf products are subject to regular VOC measurements.

Disposal

GIFAfloor waste is subject to waste code 17 08 02 - gypsum based construction material or no. 17 09 04 mixed construction and demolition wastes which are not contaminated by hazardous substances.

Building biology

Knauf GIFAfloor has been regularly tested by the IBR (Institut für Baubiologie Rosenheim) since 2003 and has since then been uninterruptedly certified by the Building Biology Recommendation Certificate. Knauf GIFAfloor meets the requirements of the French VOC class A+. Eurofins Product Testing A/S, Galten (DK) certifies that GIFAfloor complies with the required values for VOC emissions in Europe. GIFAfloor meets the requirements of Indoor Air Comfort Gold.



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