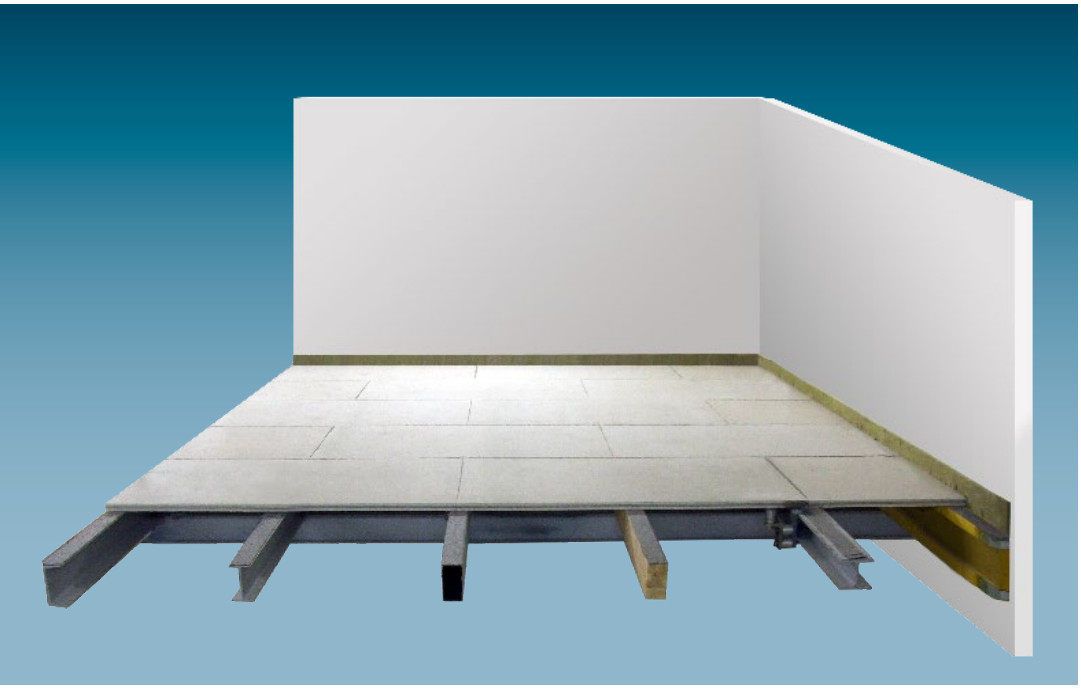


F19.de

System data sheet 12/2021

Knauf GIFAfloor

Self-Supporting System

F191.de.de – Knauf GIFAfloor – Single-layer line-bearing floor systems

F192.de.de – Knauf GIFAfloor – Double-layer line-bearing floor systems

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.

Content

Notes on the document

Knauf system data sheets are the planning and application basis for the planners and professional installers with the application of Knauf systems. 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) and/or general building authority approvals abZ) valid at the date they are published as well as on the applicable standards. In addition, design and structural requirements and those regarding building physics (fire protection 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 considered.
All dimensions in the illustrations are in millimetres [mm], unless otherwise stated.

References to other documents

Detail sheets

- Knauf GIFAfloor Hugo L Fertigteilestrich F16.de
- Knauf GIFAfloor Klima (Technisches Infoblatt)

Technical sheets

- Observe the technical sheets of the individual Knauf system components

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.

Application areas

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

General information on Knauf Systems

Application areas

Knauf GIFAfloor is used in interior areas depending on the load substructure and covering. GIFAfloor systems save installation height and improve fire and sound protection. Due to their dry construction, they are ideal for renovating old buildings or for new buildings with deadline pressure. All standard floor coverings can be laid on GIFAfloor: Carpet, PVC, linoleum, parquet, tiles, natural stone, ... GIFAfloor is suitable for domestic damp rooms.

Load capacity / Payloads / Mechanical load capacity

The substructure (beam layer) must have the minimum load-bearing capacity corresponding to the use and be level. The deflection should be ≤ L/500 at the maximum working load. Static calculation on site.
The load-bearing capacities of the line-supported systems were determined on the basis of standard EN 13213, hollow floors, through tests by the Versuchsanstalt für Holz- und Trockenbau, Darmstadt, using point load application. The values were published with additional safety factors.
Working loads are variable or mobile actions on the building component (e.g. persons, furnishing objects, unloaded lightweight partition walls, storage materials), which are specified by the planner according to the intended use. This detail sheet contains superstructures for the planned payloads.
GIFAfloor systems are suitable for chair castors without additional measures.
Knauf GIFAfloor is ideal for residential and office buildings, healthcare, educational, and other settings.

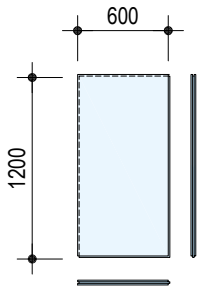
Notes on fire resistance

For all constructions for which a usability certificate is required, we recommend that you consult with the persons responsible for fire protection and/or the responsible authorities.
For further information on fire resistance, see page 9

Notes on sound insulation

Notes on sound insulation, see page 10.

GIFAfloor standard elements

Schematic diagrams without scale	Element Designation according to EN 15283-2	Dimension Element-coverage mm	Element thickness mm	Weights (Gross density ≥ 1500 kg/m³) Element approx. kg/pc	approx. kg/m²	Material-number	Packaging unit Palletising
	**FHB-Elements**						
	FHB 25 GF-W1DIR1/1200/600/25-C1/NF	1200 × 600	**25**	29.2	40.6	31256	35 pcs./pal.
	FHB 28 GF-W1DIR1/1200/600/28-C1/NF	1200 × 600	**28**	32.8	45.5	31545	30 pcs./pal.
	FHB 32 GF-W1DIR1/1200/600/32-C1/NF	1200 × 600	**32**	37.4	52.0	31326	25 pcs./pal.
	FHB 38 GF-W1DIR1/1200/600/38-C1/NF	1200 × 600	**38**	44.5	61.8	88635	20 pcs./pal.
	For load increase and for sensitive covering for doubling on top of the a.m. GIFAfloor FHB elements						
	LEP 18 GF-W1DIR1/1200/600/18-C1/SF	1200 × 600	**18**	21.1	29.3	99258	50 pcs./pal.

Material	Mat.-Nr.	Sales unit	Quantity required[1])
GIFAfloor support insulation strip	91287	100 m / box (= 5 rolls)	as required
GIFAfloor edge insulation strip MW	109147	100 pcs / box	as required
GIFAfloor edge insulation strip MW	756440	10 pcs / box	as required
GIFAfloor foam tape sk	74339	10 m roll	as required
Knauf GIFAbond blue	676976	1.2 kg-bottle	ca. 51 g/m²
Knauf GIFAbond uno EC 1	741703	12 pcs foil tube a 600 ml (~900 g) / box	ca. 107 g/m²
Knauf GIFAbond duo EC 1	741704	15 kg-bucket	ca. 705 g/m²
Knauf screed primer	5355	10 kg-bucket	ca. 200 g/m²

1) The required quantities stated refer to a room size of 10 x 10 m. Different room dimensions result in other quantities required.

Tools	Mat.-Nr.	PU	Consumption
Knauf adhesive gun	4657	piece	as required
GIFAtool Diamond (Diamond-tipped saw blade 160x2.2/1.6x20)	186326	piece	as required

Raw materials and production of the GIFAtec material

GIFAtec is produced from natural gypsum and a proportion of FGD gypsum with the addition of cellulose fibres from sorted waste paper and cardboard. The natural gypsum is mined in an open-cast mine within a radius of approx. 30 km around the plant. The pure flue gas desulphurisation plant gypsum (FGD gypsum), which is identical to natural gypsum, is fired together with the natural gypsum to produce stucco. The papers are softened in water and mixed with mixing water and the fired stucco to form a slurry. This slurry is then placed on a conveyor belt in a thickness of about 2 mm, dewatered via vacuum during further transport, wound up on a winding roller to the desired thickness and then roughly cut to size. After passing through the maturing section, the raw board is dried in a layer dryer, sanded to the usable thickness, cut or milled into large boards, floor elements or, in the case of large quantities, into special format boards in a format station and then primed and palletised. This unique manufacturing process for gypsum fibre material is the basis for the homogeneous density across the entire material thickness.

Builging physics material data

	Property	Value	Unit	Norm
Fire resistance:	Fire behaviour (R2F)	A1 (non combustible)	Ø	EN 13501-1
General strength properties:	Density	≥ 1500	kg/m^3	EN 15283-2
	Surface hardness (Brinell)	≥ 40	N/mm^2	EN 15283-2
	Adhesion	≥ 1.0	N/mm^2	EN 13892-8:2
Hydrothermal characteristic values:	Length change with a change in relative humidity of 30 % at 20°C*	≤ 0.6	mm/m	Internal specifications
	Length change with with temperature change	≤ 0.02	mm/(mK)	
	Coefficient of thermal expansion α	12.9 × 10^{-5}	1/K	
	Calculated value of the thermal conductivity λ_R	0.44	W/(mK)	
	For the dimensioning of the underfloor heating systems λ_{10}	0.30	W/(mK)	
	Water vapour diffusion resistance number μ	μ=10 (dry); μ=4 (wet)	Ø	EN ISO 10456
	Specific heat capacity c	>1000	J/(kgK)	
	Hygrothermal installation conditions (stationary)	+10°C to +35°C / approx. 45 – 75 % r.F.	Ø	Internal specifications
	Hygrothermal Use conditions (stationary)	−10°C to +35°C / approx. 35 – 75 % r.F.	Ø	Internal specifications
	Surface water absorption capacity (Cobb-Test)	>300	g/m^2	EN 15283-2
Other:	Transport surface primer on both sides for dust binding and reduction of water absorption capacity	yes	Ø	Internal specifications

** The calculated value of the change in length is to be used for the calcuation of joint widths of GIFAfloor. This is based on measurements of the change in length of the material when the rel. humidity changes by 30 % at 20°C and includes safeties.*

Notes on static characteristic values

The substructure (e.g. beam layer) including any height compensation measures must have the minimum load-bearing capacity corresponding to the use and be level. The deflection should be ≤ L/500 at the maximum working load. GIFAfloor floor systems are suitable for dynamic loads. Static calculation on site.

Loads

EN 13213 Hollow floors specifies the test methods and classifications of hollow floors. (4.1.1 Note: “Area load capacities should not be considered as load-bearing properties; only point load capacity is considered as the relevant property”). The live loads of the line-supported GIFAfloor floor systems given in the tables are the permissible point or concentrated loads. Live loads are variable, moving loads (e.g. people, furniture ...) that act on the GIFAfloor.

Dynamic loads, e.g. industrial trucks (lift truck + load) are to be multiplied by a safety factor/vibration coefficient φ=1.5 for the highest planned/ mean individual wheel load in order to determine the required payload of the GIFAfloor system. The distance between the load inputs (e.g. wheel distance) is to be considered as one load for distances smaller than the support distance. If the wheel support area falls below the size of a square with an edge length of 25 mm, additional measures may be necessary. In order to support larger loads, GIFAfloor systems with higher load-bearing capacities and/or additional support structure and/or suitable shifts at the required distance/number must be arranged below the areas in question.

The load-bearing capacities of the line-supported systems were determined on the basis of the EN 13213 standard, hollow floors, through tests by the Versuchsanstalt für Holz- und Trockenbau, Darmstadt, using point load application. The values were published with safeties.

Live load assumptions according to EN 1991-1-1/NA:2010-12*

Cat.	Utilization	Examples	kN **
	No categorisation	Non-accessible jamb walls	k.A.
A1	Pointed floors	Roof space not suitable for residential purposes but accessible up to 1.80 m clear height	1.0
A3	Living and recreation rooms	Rooms and corridors in residential buildings, bed rooms in hospitals, hotel rooms including associated kitchens and bathrooms	1.0
B1	Office spaces, workspaces, corridors	Corridors in office buildings, office spaces, medical practices without heavy equipment, ward rooms, recreation rooms including corridors.	2.0
B2		Corridors and kitchens in hospitals, hotels, old people‘s homes, corridors in boarding schools, etc., treatment rooms including operating rooms in hospitals without heavy equipment; basement rooms in residential buildings.	3.0
B3		as B1 and B2, but with heavy equipment	4.0
C1	Rooms, assembly rooms and areas which may be used for the assembly of persons (with the exception of categories defined under A,B,D).	Areas with tables, e.g. day nurseries, crèches, school rooms, cafés, restaurants, dining rooms, reading rooms, reception rooms, teachers‘ rooms	4.0
C2		Areas with fixed seating, e.g. areas in churches, theatres or cinemas, congress halls, lecture halls, waiting rooms	4.0
C3		Freely accessible areas, e.g. museum areas, exhibition areas, etc. and entrance areas in public buildings, hotels, as well as corridors belonging to use category C1 to C3	4.0
C4		Sports and play areas; dance halls, sports halls, gymnastics and weight training rooms, stages	7.0
C5		Areas for large gatherings of people, e.g. in buildings such as concert halls, terraces and entrance areas as well as grandstands with fixed seating.	4.0
D1	Salesrooms	Areas of sales rooms up to 50 m² floor space in residential, office and comparable buildings	2.0
D2		Space in retail shops and department stores	4.0
D3		Areas as D2, but with increased individual loads due to high storage racks	7.0
E1	Factories, workshops and warehouses	Areas in factories and workshops with light operations	4.0
E2		General storage areas including libraries	7.0
E3		Areas in factories and workshops with medium or heavy operations	10.0
T1	Stairs and landings	In residential buildings, office buildings, and doctor‘s practice without heavy equipment	2.0
T3		Entrances and stairs of grandstands without fixed seating that serve as escape routes	3.0

Permissible live loads (permissible loads in kN) for line-bearing floors*

Size [mm]	Series	Distance between supports [mm]**									
		≤ 300	≤ 400	≤ 500	≤ 600	≤ 700	≤ 800	≤ 900	≤ 1000	≤ 1100	≤ 1200
Single-layer systems											
25	Edge plate***	4	3	2.5	2	1	1	0.7	0.7	0.5	0.5
	Panel	4	3.5	3	3	3	2	2	1	1	1
28	Edge plate***	5	3.5	2.5	2	2	1	1	1	0.7	0.7
	Panel	5	4.5	4	4	4	3	3	2	2	2
32	Edge plate***	6	4.5	3.5	3	3	2	2	2	1	1
	Panel	6	5.5	5	5	5	4	4	3	3	2
38	Edge plate***	6	5	4.5	4	3.5	3	2.5	2	1.5	1.2
	Panel	7	7	7	6	6	6	5	4	3.5	2.5
Double-layer systems****											
25+18	Edge plate***	5	4.5	4	4	3	3	2.5	2	1.8	1.7
	Panel	6	5.5	5.5	5.5	5	5	4.5	4	3.5	3
28+18	Edge plate***	6	5	4.5	4.5	3.5	3	3	2.5	2	1.8
	Panel	7.5	7	7	7	7	6	5.5	4.5	4	3.5
32+18	Edge plate***	7	6.5	5.5	5	4.5	3.5	3	3	2.5	2
	Panel	10	9	9	9	8	7	6	5	4.5	4

* *The specified working loads apply to panels (bottom layer) without cross joint (joint parallel to the line support) in the field area, i.e. cross joints are to be formed on the line support. In the case of cross joints in the field, the working loads specified in this table are to be reduced by 50 %.*

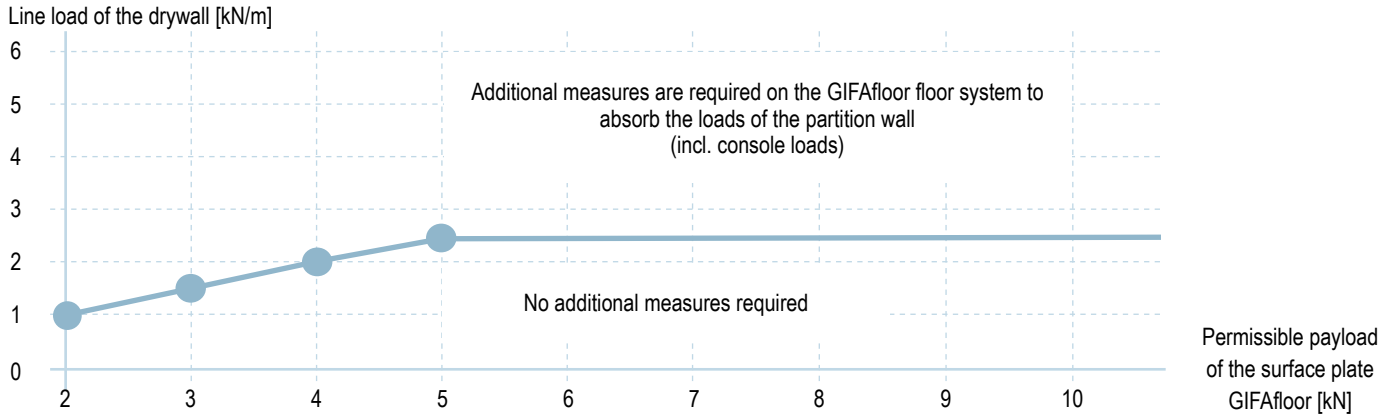
** *Two cross joints in a row in one plate in the GIFAfloor element layer are not permitted.*

*** *With a support distance of the edge slabs at the edge ≤ 300 mm or a line support at the edge, the live loads of the surface slabs can be applied to the edge slabs (see examples on page 8 below).*

**** *If the top layer of plates is weakened by milling, the load-bearing capacity of "the bottom layer alone" must be used.*

Drywalls on GIFAfloor floor systems F191.de and F192.de

(non-load-bearing internal partition walls according to DIN 4103-1:2015-06)



On GIFAfloor line-supported floor systems with a permissible working load of the surface panel of ≥ 2.0 kN, drywall with a line load corresponding to half the value of the permissible working load of the surface panel of the GIFAfloor can be installed at any point of the floor without additional measures.

Drywalls that are installed at right angles to the supporting structure on the GIFAfloor, a line load equal to the value of the live load of the surface plate of the GIFAfloor may be set up without additional measures.

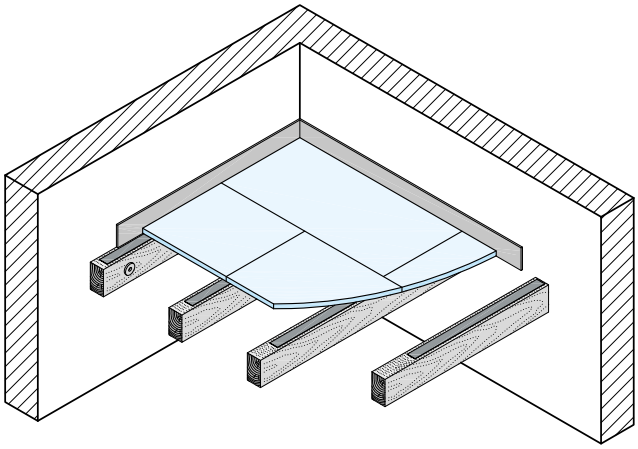
Dry walls that are installed on the GIFAfloor at an angle to the supporting structure and the distance between the crossings is > 1.2 m may have a line load that corresponds to half the value of the permissible working load of the GIFAfloor panel. If the distance between the crossings is ≤ 1.2 m, the walls may have a line load that corresponds to the value of the permissible working load of the surface plate of the GIFAfloor.

If the loads to be expected from partition walls, including console loads, are greater than those mentioned above, GIFAfloor systems with higher load-bearing capacities and/or additional load-bearing structure and/or suitable shifts must be arranged at the necessary distance/necessary number below the partition walls/partition wall areas in question. Alternatively, the live loads of the GIFAfloor in these areas are to be reduced by the value of the partition wall line loads (e.g. in case of subsequent partition wall construction).

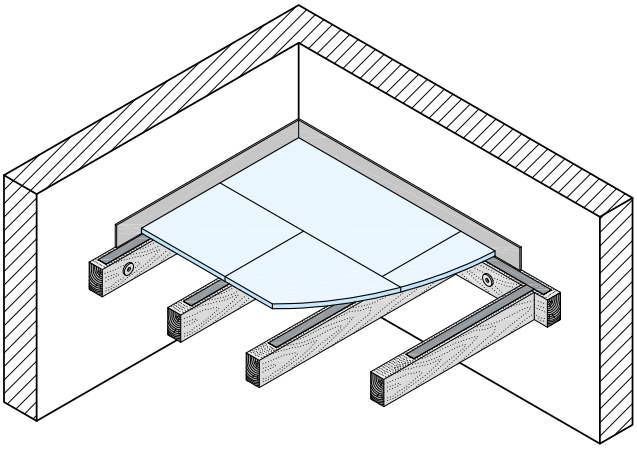
The weight specifications of the metal stud walls are given in the detail sheets for the respective Knauf wall systems.

System illustrations | with edge support / without edge support

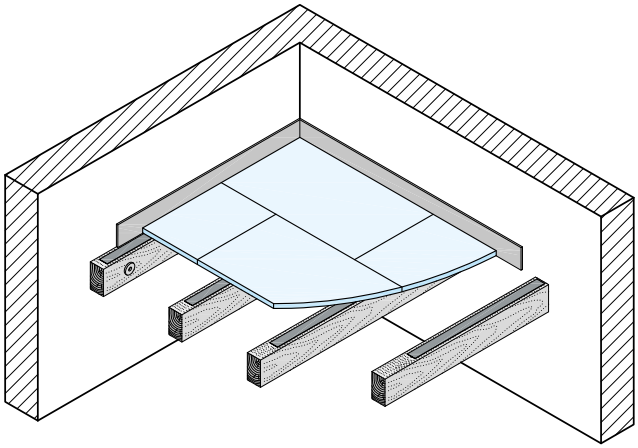
Timber construction without edge support



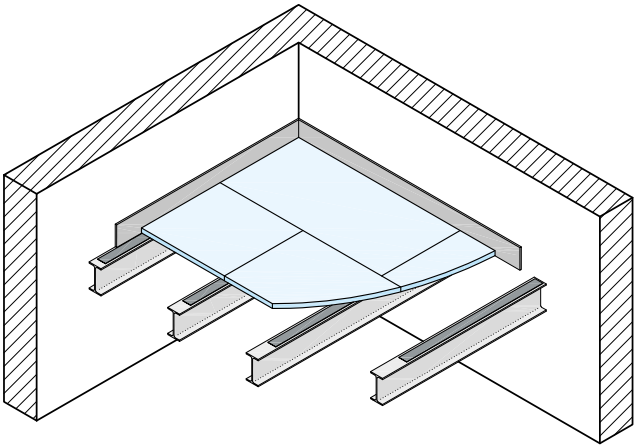
Timber construction with edge support



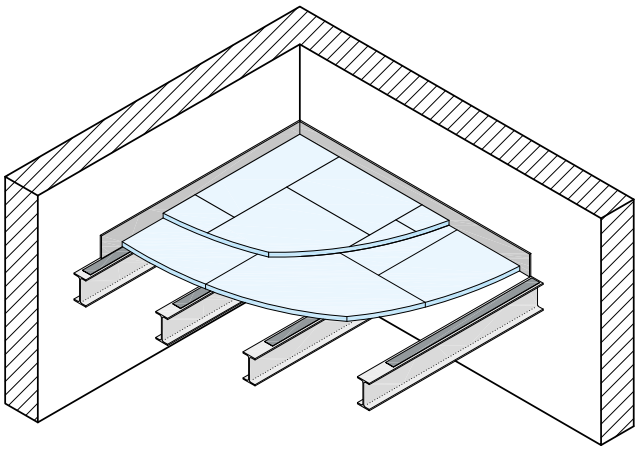
Timber construction without edge support, flying edge joint



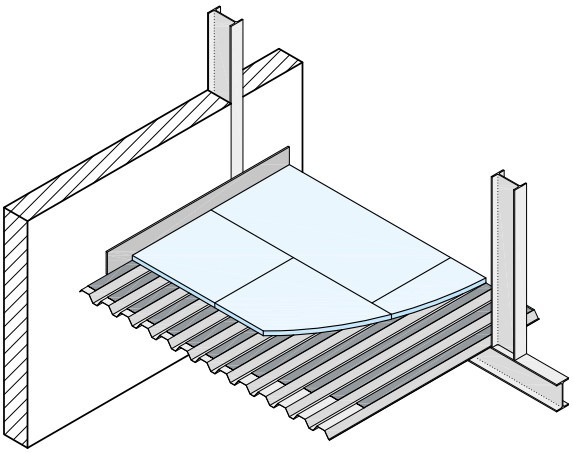
Steel construction without edge support



Steel construction without edge support



Trapezoidal metal sheet construction



Fire resistance

Fire resistance of GIFAfloor systems acc. to EN13501-2

The test load for the GIFAfloor fire resistance tests was 2.0 kN/m². In addition, linear loads of 1.7 kN/m may be applied to the floors, e.g. by interior walls, if they transfer their load vertically via the GIFAfloor floor to the supporting structure.

If fire protection is required, only GIFAfloor edge insulation strips (A1, melting point >1000°C) may be used as edge connection to rising building components.

GIFAfloor floor constructions may be connected to solid walls, Knauf metal stud walls and shaft walls with the same fire resistance duration.

Fire resistance acc. to EN 13501-2 in case of fire from above

GIFAfloor Thickness [mm]	Classification* plus	Support structure- / Support axis-distance** [mm]	Verification classification report No.	Fire resistance-duration Minutes
≥25	REI30	≤1200	20191512/01	≥30
≥32	REI60	≤1200	from	≥60
≥50	REI60	≤1200	11.03.2021	≥90

* *Based on the classification specifications in EN 13501-2 section 7.3.4.4 table 3, a classification of the achieved fire resistance durations of ≥90 or ≥120 minutes with REI 60 shall be specified.*

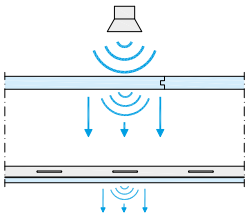
** *The supporting structure is to be designed according to the static requirements. It can consist of wooden beams, lightweight steel profiles, trapezoidal sheets, hot-rolled steel profiles, reinforced concrete beams or load-bearing walls (solid or lightweight/dry construction). It can also consist of Knauf hollow floor supports or in the form of a riser made of GIFAfloor of the same thickness placed at the edge below the floor surface. The maximum height of the riser is 50 cm. The maximum centre distance of the hollow floor supports is 600 mm.*

plus For all constructions for which a usability certificate is required, we recommend that you consult with the persons and/or authorities responsible for fire protection prior to construction.

Sound insulation

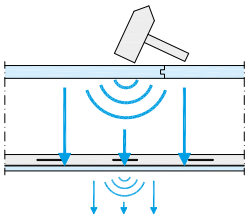
Airborne sound reduction index R_w

The higher the weighted airborne sound reduction index R_w, the better the airborne sound insulation of the separating component.

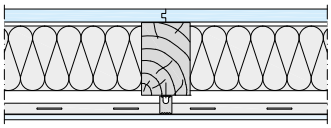


Standard impact sound level $L_{n.w}$

The lower the weighted standard impact sound level $L_{n.w}$, the better the impact sound insulation of the separating component.



Wood beam ceiling with Knauf suspended ceilings



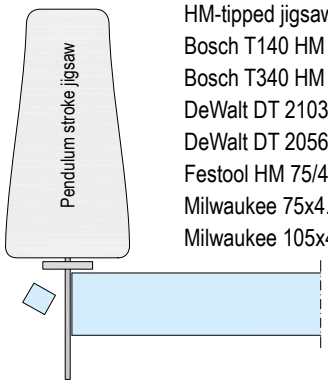
"Sketch not to scale, without FTE, without underside planking"

Description	R_w [dB]	$R_{w,R}$ [dB]	$L_{n.w}$ [dB]	$L_{n.w,R}$ [dB]
HBD without FTE with ceiling 12.5 mm GKB	63.2	61	62.8	65
HBD with FTE with ceiling 12.5 mm GKB	68.0	66	50.6	53
HBD without FTE with ceiling 12.5 GKB+12.5 Diamond	68.1	66	60.0	62
HBD with FTE with ceiling 12.5 GKB + 12.5 Diamond	72.9	70	44.1	47
HBD without FTE with ceiling 12.5 GKB + 12.5 Silent-board	69.2	67	56.6	59
HBD with FTE with ceiling 12.5 GKB + 12.5 Silent-board	73.7	71	41.9	44
HBD without FTE with ceiling 12.5 mm Silentboard	68.2	66	58.3	61
HBD with FTE with ceiling 12.5 mm Silentboard	71.7	69	44.2	47
HBD without FTE with ceiling 2 × 12.5 mm Silentboard	71.1	69	55.6	58
HBD with FTE with ceiling 2 × 12.5 mm Silentboard	74.1	72	40.3	43
HBD without FTE with ceiling 18 mm GKF	64.7	62	65.8	68
HBD with FTE with ceiling18 mm GKF	70.4	68	48.0	50
GIFAfloor 28 mm not screwed, but floating on support insulation strips on joist; 240 mm UNIFIT TI 135U; Ceiling 2 × 12.5 mm Silentboard	w/o Knauf FTE: 71.9	w/o Knauf FTE: 69“	w/o Knauf FTE: 50.8	w/o Knauf FTE: 53
For comparison: chipboard 22 mm screwed to joist; 240 mm UNIFIT TI 135U; DSH w. batten 30/50 mm; Ceiling 2 × 12.5 mm Silentboard	Comparative values without FTE:			
	66.7	64	50.4	53

Wood beam ceiling construction (HBD):
GIFAfloor 28 mm screwed to joist (KVH 80/240 mm e=625 mm);
240 mm UNIFIT TI 135U;
Direct swing hanger (DSH) with wooden batten approx. 55 mm suspension height with planking as per description

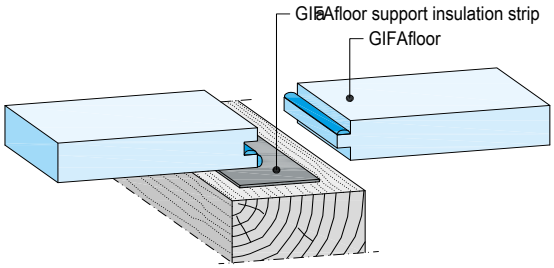
Pre-fab screed construction (FTE):
Knauf pre-fab screed 23 mm on Knauf wood fibre insulation board WF 10 mm on 60 mm EPS DEO 200 kPa on prescibed HBD.

Cut off tongue at wall connection

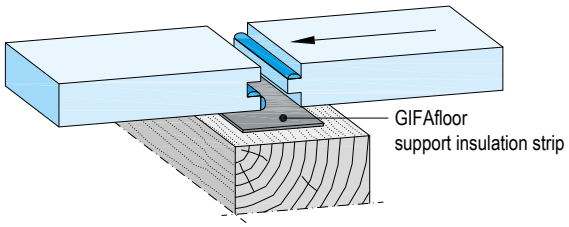


HM-tipped jigsaw blades e.g.:
Bosch T140 HM
Bosch T340 HM
DeWalt DT 2103-QZ
DeWalt DT 2056-QZ
Festool HM 75/4.5
Milwaukee 75x4.2 mm T141 HM
Milwaukee 105x4.2 mm T141 HM

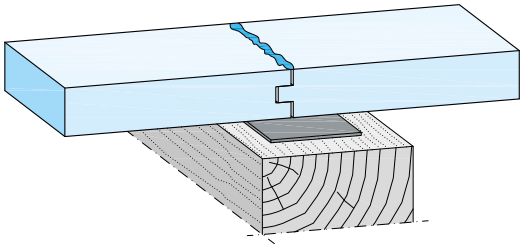
1. Centre the panel joint on the support.
Apply adhesive to the front edge of the groove and to the tongue (see left).



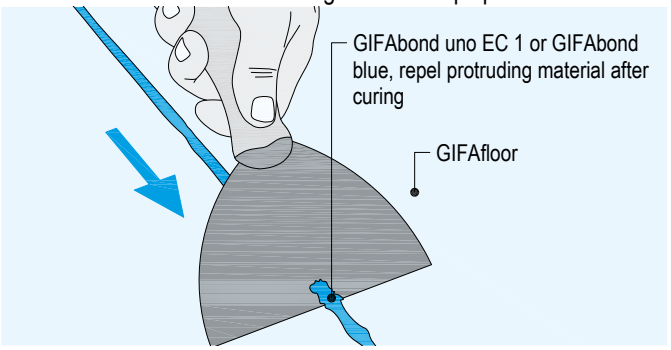
2. Laying sequence: insert tongue into the horizontal groove.



3. Adhesive leaking from the top and bottom indicates sufficient adhesive application.

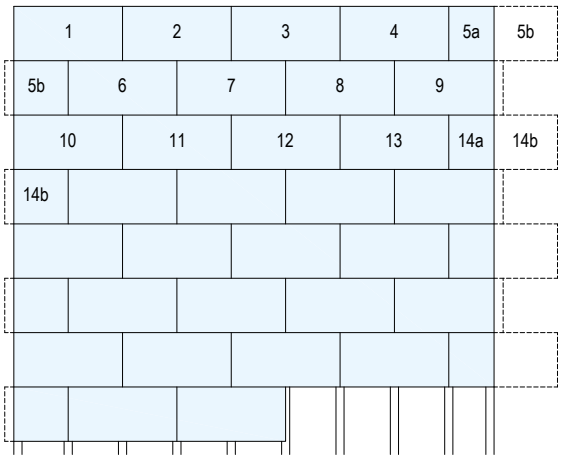


4. Remove hardened adhesive e.g. with a sharp spatula.



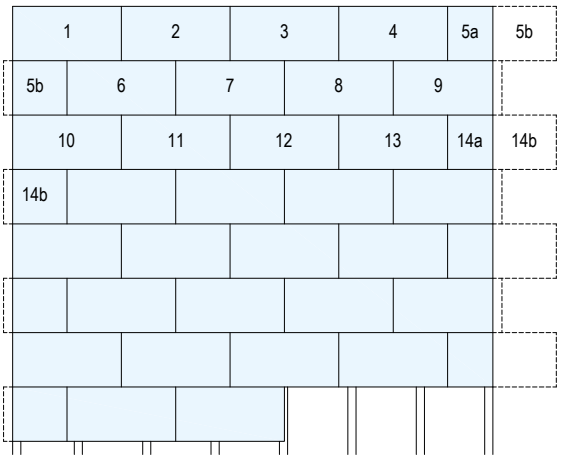
Laying in a half bond with joist on the support

Use of the cut off in the next row



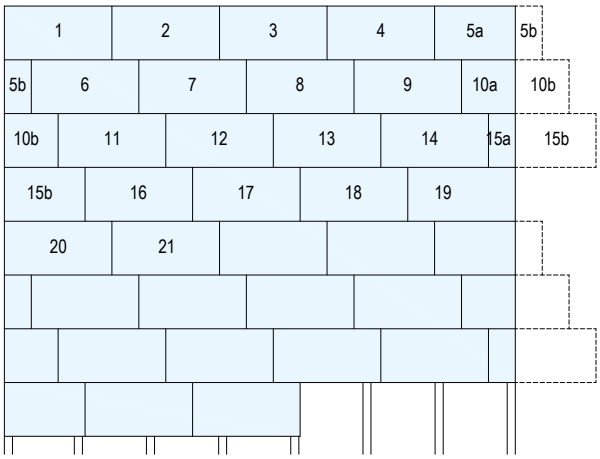
Laying in half bond with flying butt joints

Use of the cut off in the next row



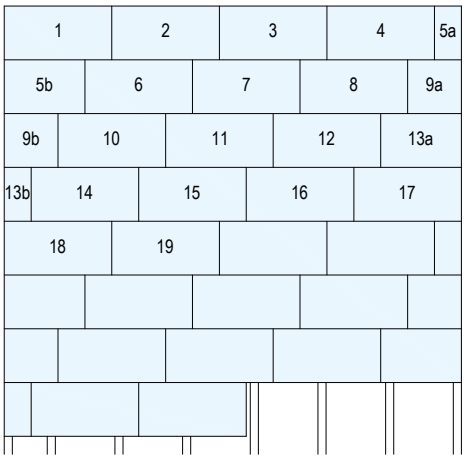
Laying in a trailing bond with flying butt joints

Use of the cut off in the next row



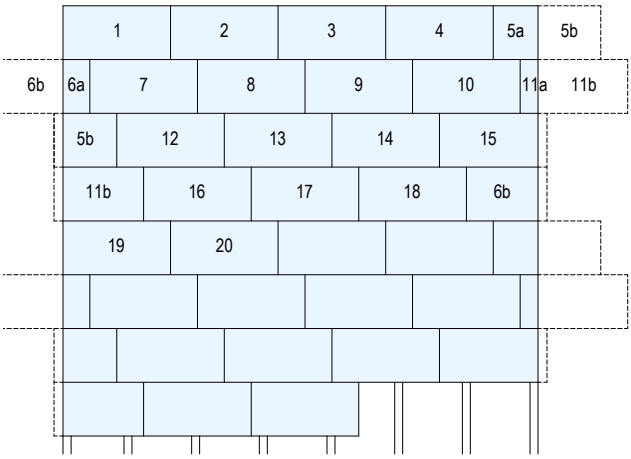
Laying in a trailing bond with flying butt joints

Use of the cut off in the next row



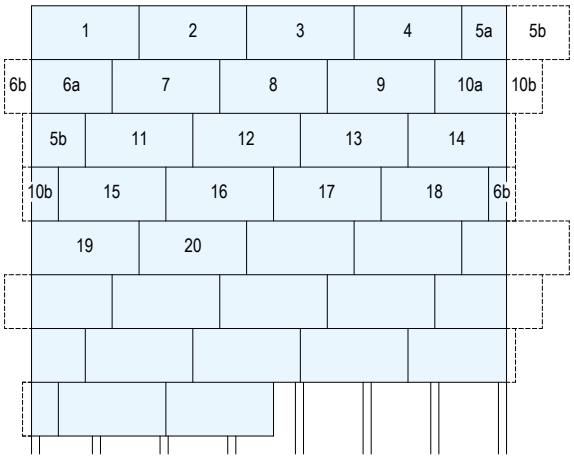
Laying in a trailing bond with flying butt joints

Use of the cut off in the next row

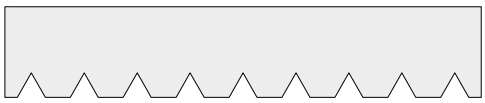


Laying with trailing bond with flying butt joints

Use of the cut off in the next row

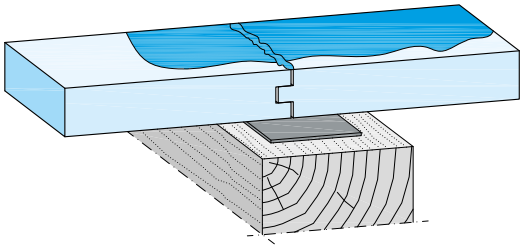


Cut-out tooth bar TKB B3

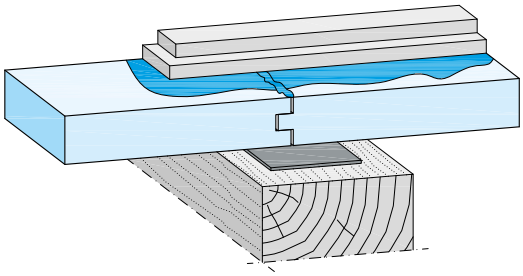


Laying 2nd layer

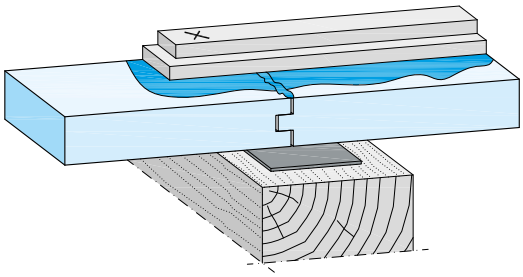
Apply adhesive over the entire surface



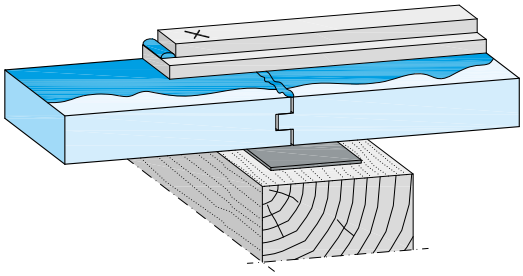
Place the LEP element in the adhesive bed immediately after applying the adhesive



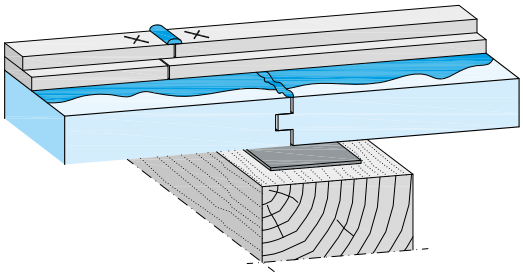
Fix the LEP elements of the second layer to the bottom layer immediately after embedding them in the adhesive bed. To do this, stand on the element to be fixed with an air/pulse nailer gun and press the element onto the first layer with your body weight.



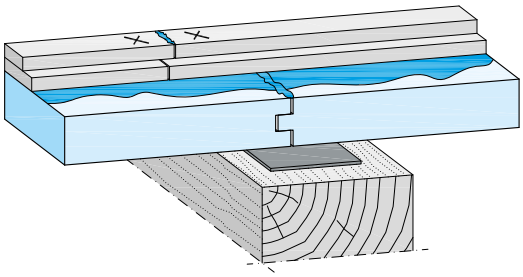
Apply the adhesive for the following element also to the step seam of the assembled element, continue as described.



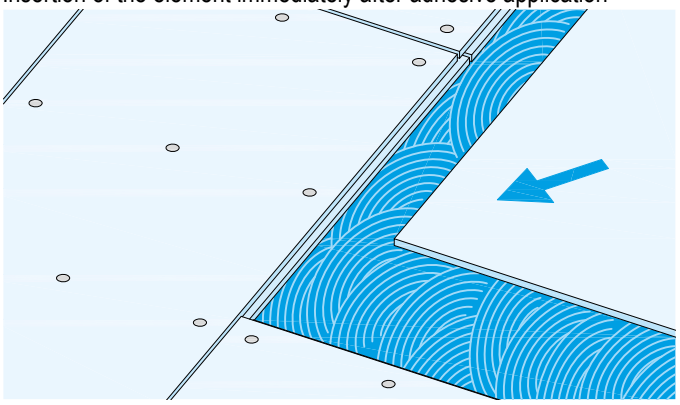
Adhesive leaking from the top indicates sufficient adhesive application.



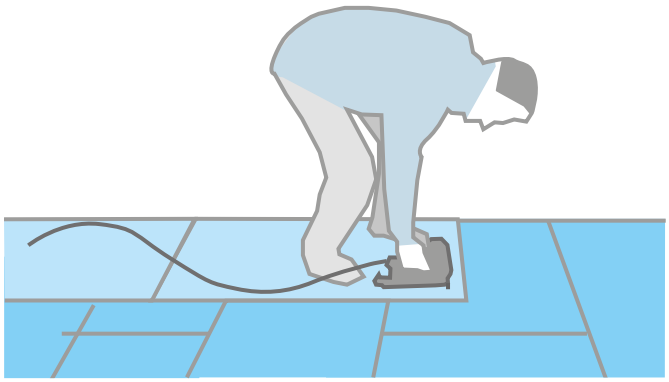
Remove hardened adhesive e.g. with a sharp spatula (see page 12).



Insertion of the element immediately after adhesive application



Nailing with an air/pulse nailer gun standing on the element to be fixed

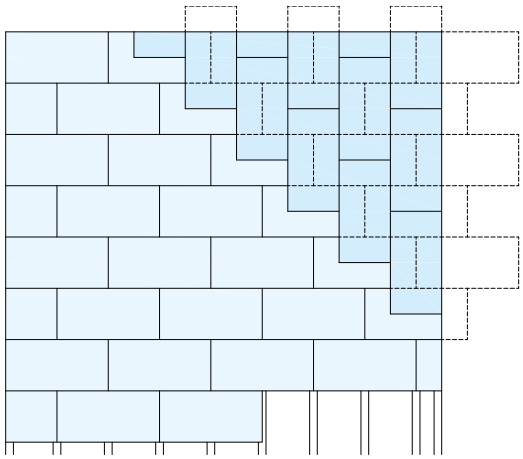


Air nailer gun: e.g. Stauchkopfnagler Paslode FN 1665.1 (operating pressure: 8.0 bar); nails e.g.: Paslode F16x29 mm or Haubold SKN 16/30 C NK or SKN 16/25 C NK;
Gas impulse nailer: e.g. ITW impulse nailer IM65F 16 B-pack 19-64mm; nails e.g. pack F16-25mm (fuelcells + galv. brads)

Installation and application 2. layer (Examples: Laying schemes)

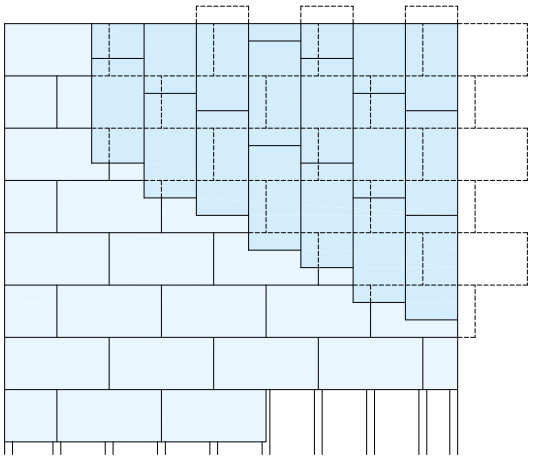
Example: End edge joints of the bottom layer on the supports

Optimal joint offset of the second layer 30cm



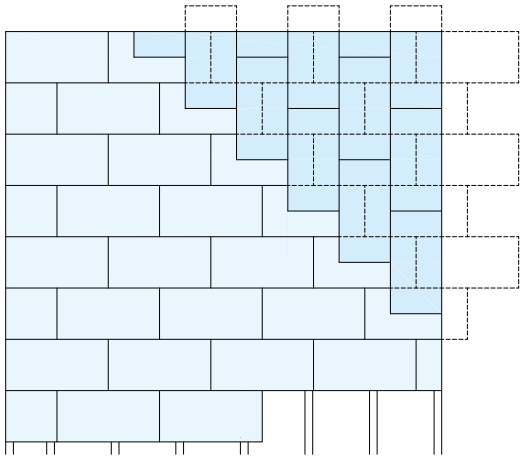
Example: End edge joints of the bottom layer on the supports

Joint offset of the second layer at least 20cm



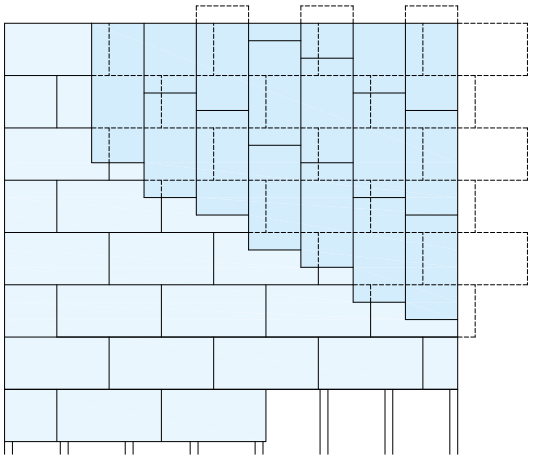
Example: Face edge joints of the lower layer flying

Optimal joint offset of the second layer 20cm

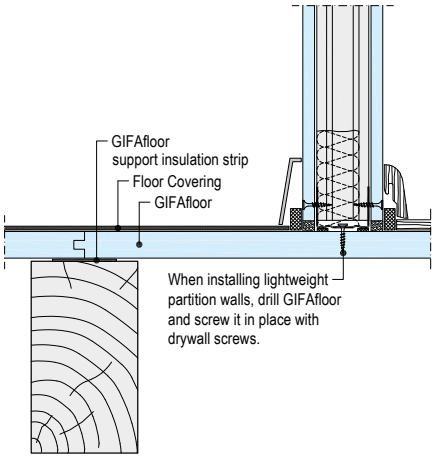


Example: Face edge joints of the lower layer flying

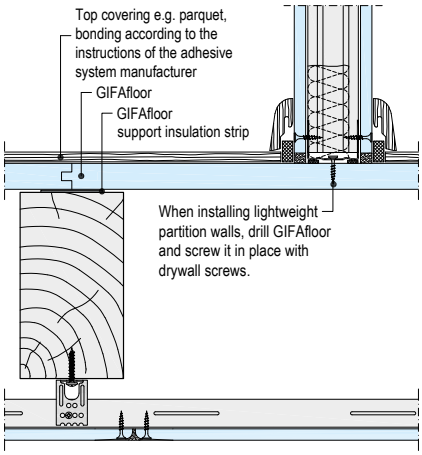
Joint offset of the second layer at least 20cm



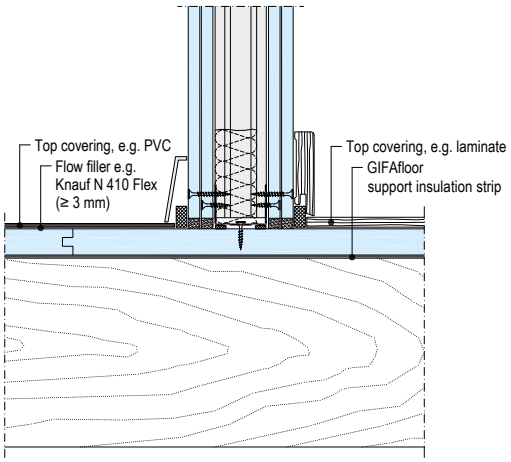
F191.de-V6 – GIFAfloor on wooden beam, on top W111.de



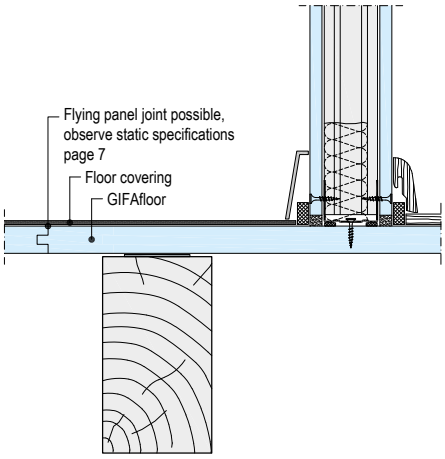
F191.de-V7 – GIFAfloor on wooden beam, on top W111.de, underneath D152.de



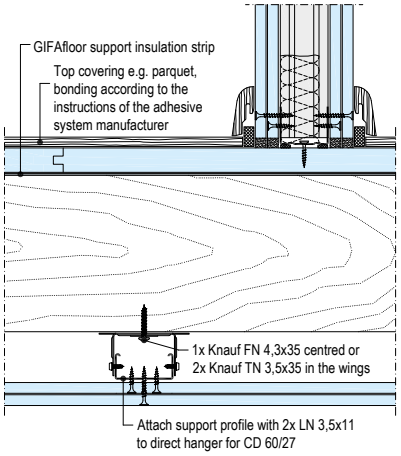
F191.de-V5 – GIFAfloor on wooden beam, on top W111.de



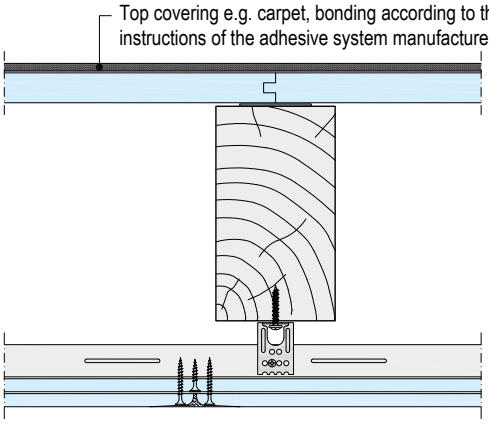
F191.de-V13 – GIFAfloor on wooden beam, flying edge joint, on top W111.de



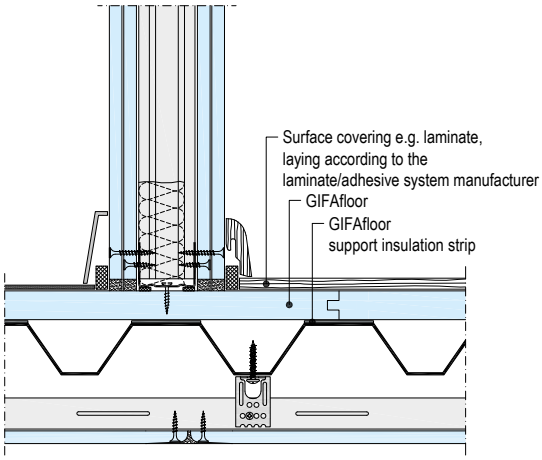
F191.de-V4 – GIFAfloor on wooden beam, on top Knauf W112.de, underneath Knauf D152.de



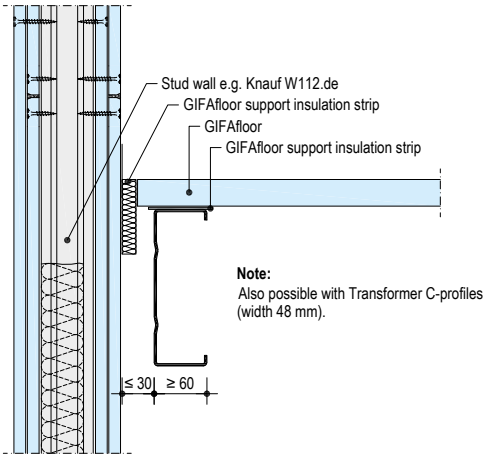
F191.de-V3 – GIFAfloor on wooden beam, underneath D152.de



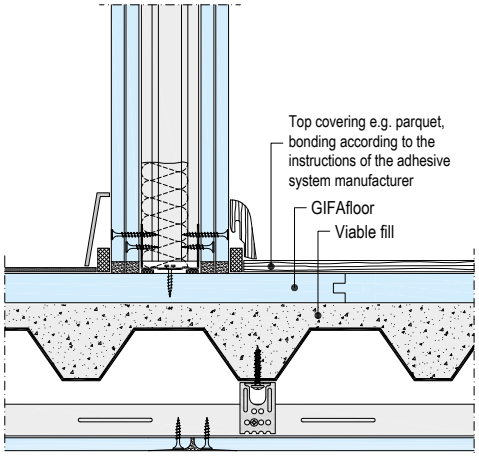
F191.de-V11 – GIFAfloor on trapezoidal sheet metal, on top W112.de, underneath D112.de



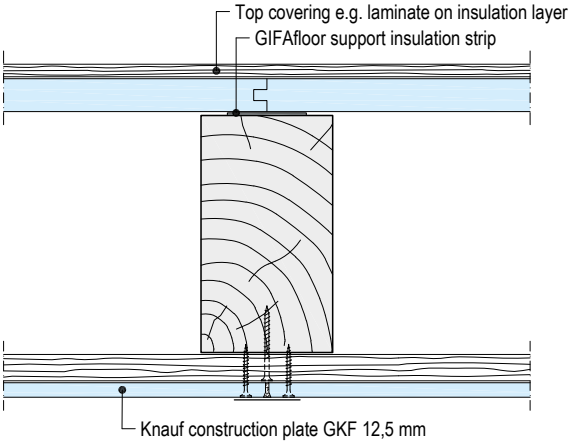
F191.de-V10 – GIFAfloor on lightweight steel profile, connected to Knauf W112.de



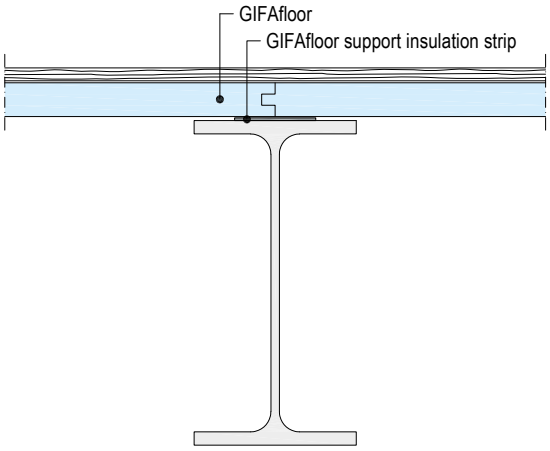
F191.de-V12 – GIFAfloor on fill on trapezoidal sheet metal, on top W112.de, underneath D112.de



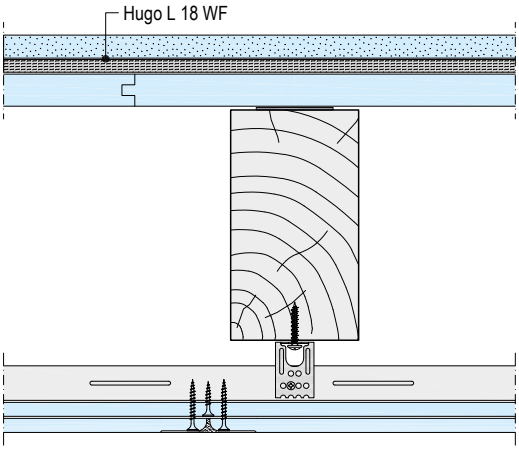
F191.de-V2 – GIFAfloor on wooden beam, underneath D151.de



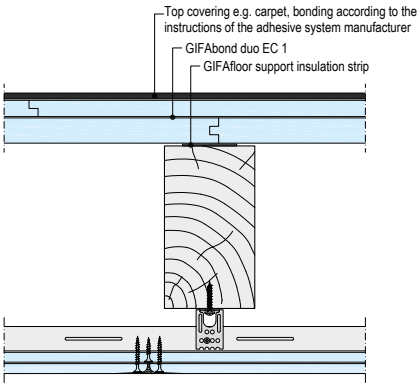
F191.de-V8 – GIFAfloor on steel beam



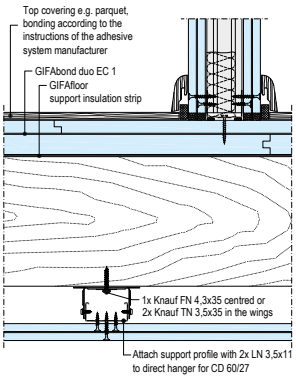
F191.de-V18 – GIFAfloor on wooden beam, underneath D112.de



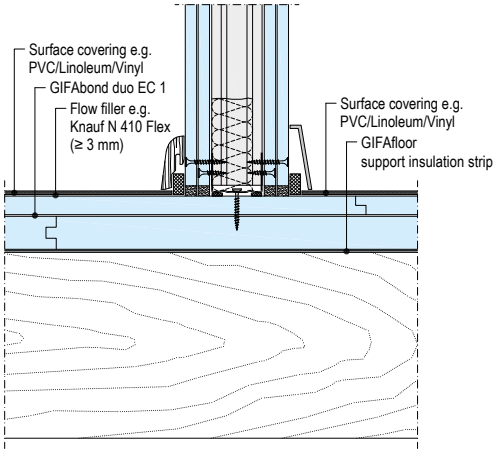
F192.de-V5 – GIFAfloor on wooden beam, underneath D152.de



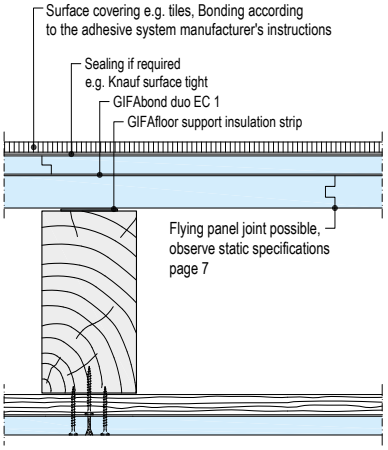
F192.de-V2 – GIFAfloor on wooden beams on top W112, underneath D112.de



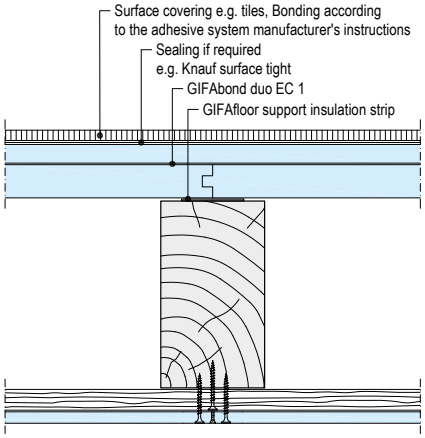
F192.de-V6 – GIFAfloor on wooden beam, on top W112.de



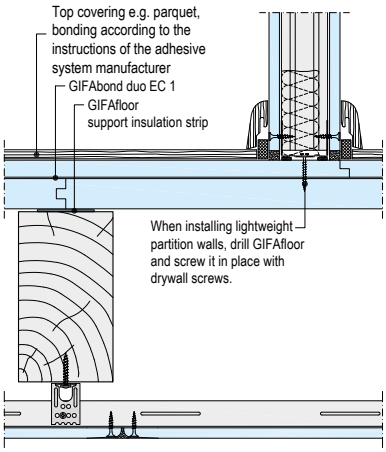
F192.de-V14 – GIFAfloor on wooden beam, flying joint, underneath D151.de



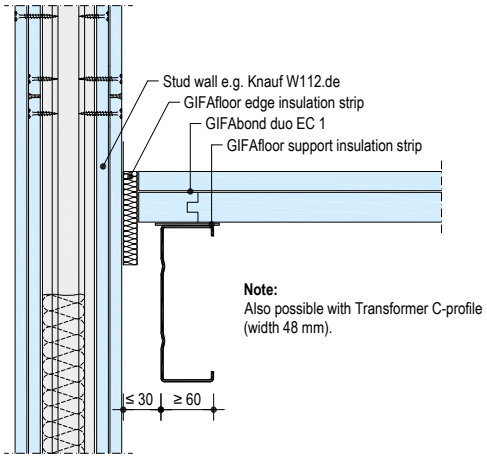
F192.de-V1 – GIFAfloor on wooden beam, underneath D151.de



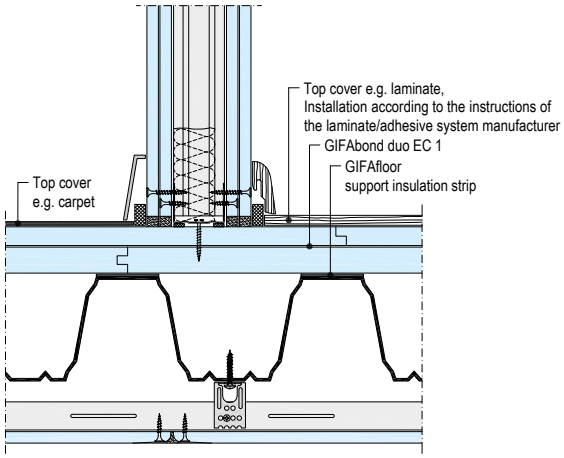
F192.de-V7 – GIFAfloor on wooden beam, on top W111, underneath D112.de



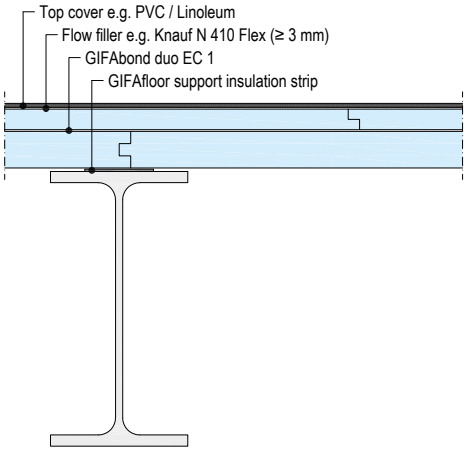
F192.de-V10 – GIFAfloor on lightweight steel profile, connected to Knauf W112.de



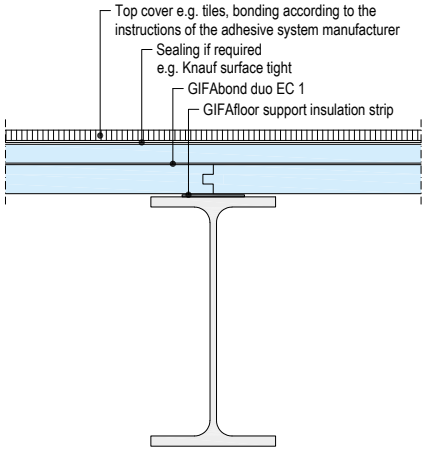
F192.de-V11 – GIFAfloor on trapezoidal sheet metal, on top W112.de, underneath D112.de



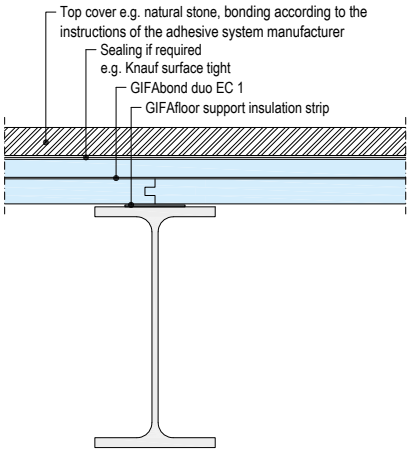
F192.de-V3 – GIFAfloor on steel beam



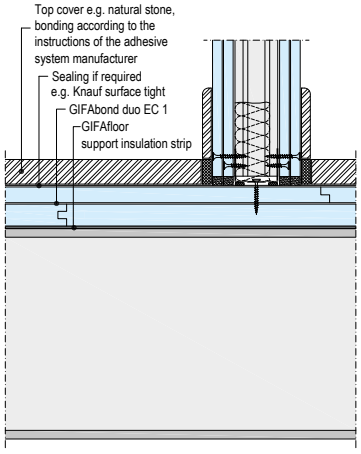
F192.de-V8 – GIFAfloor on steel beam



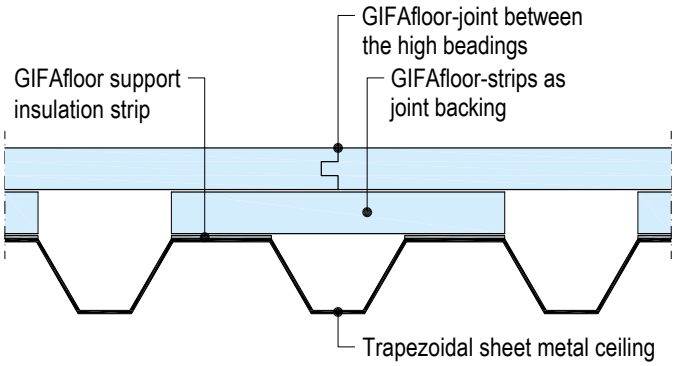
F192.de-V9 – GIFAfloor on steel beam



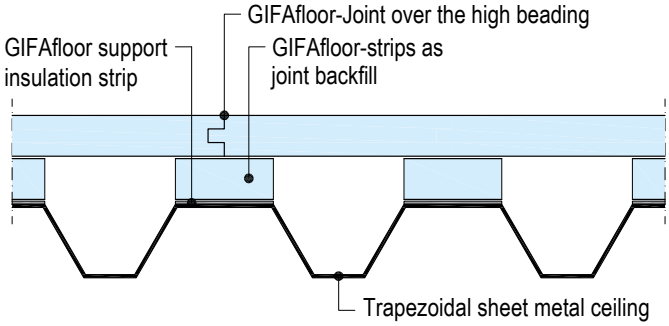
F192.de-V4 – GIFAfloor on steel beam, on top W112.de



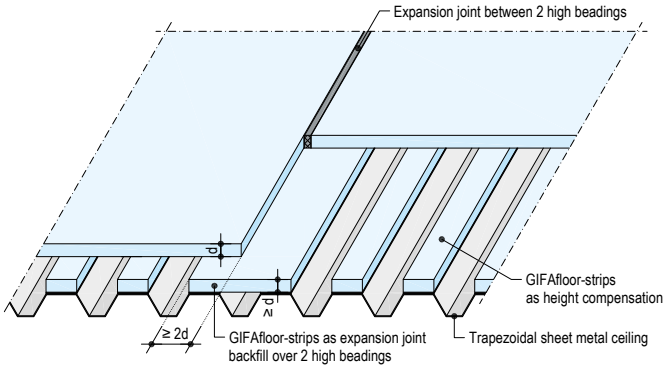
F191.de-V21 – Element joint with underlay over deep bead



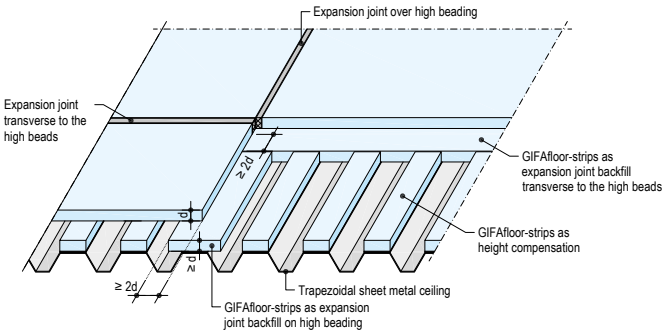
F191.de-V20 – Element joint with underlay over high bead



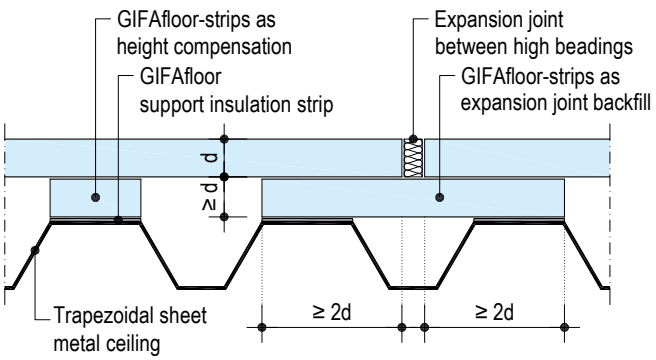
Expansion joint with underlay over deep beads and on high beads



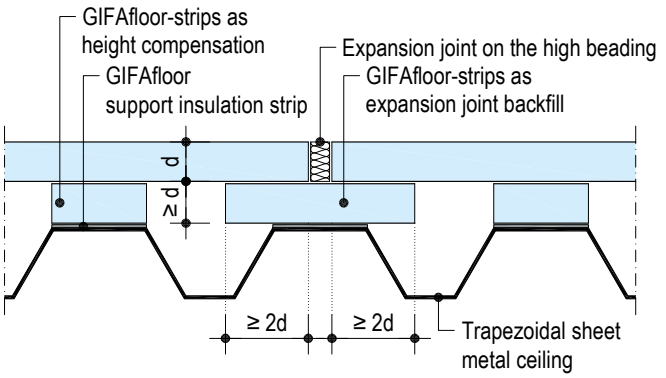
Expansion joints with underlays



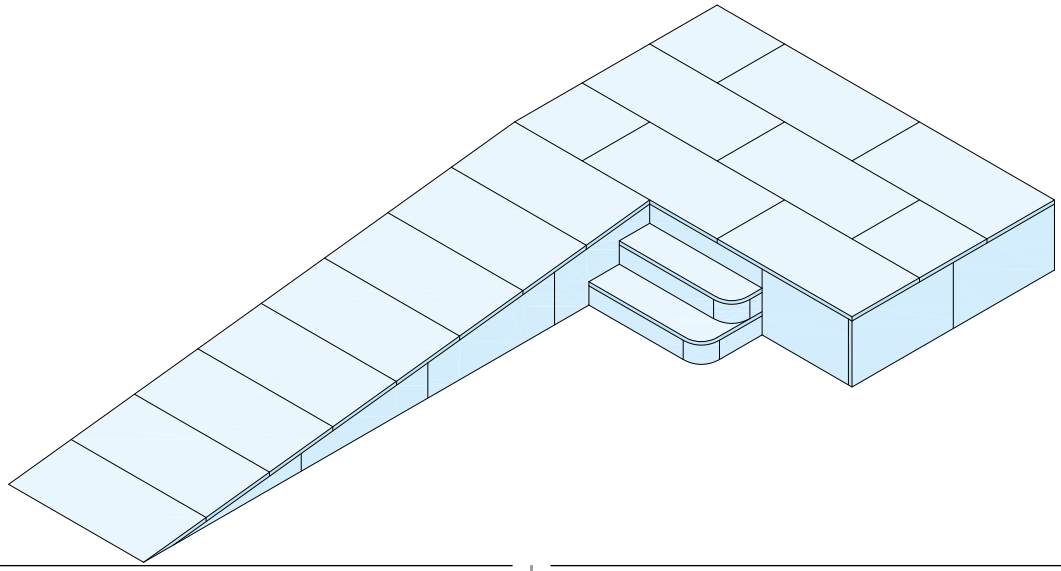
F191.de-V24 – Expansion joint with underlay over deep bead



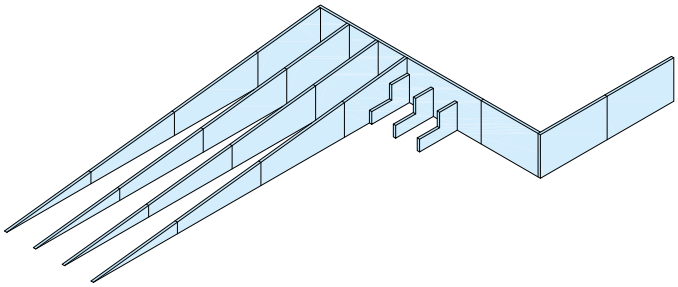
F191.de-V23 – Expansion joint with underlay over high bead



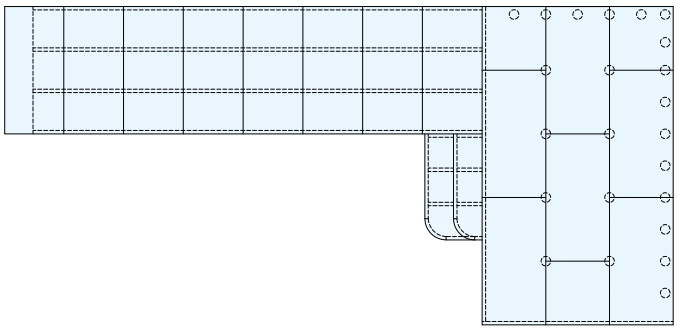
Example: Ramp-stair construction



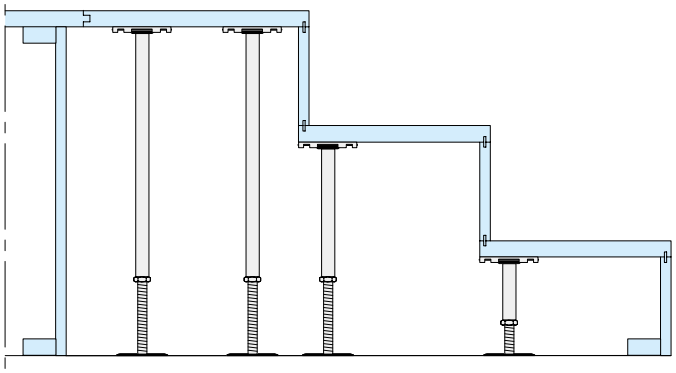
Frame substructure



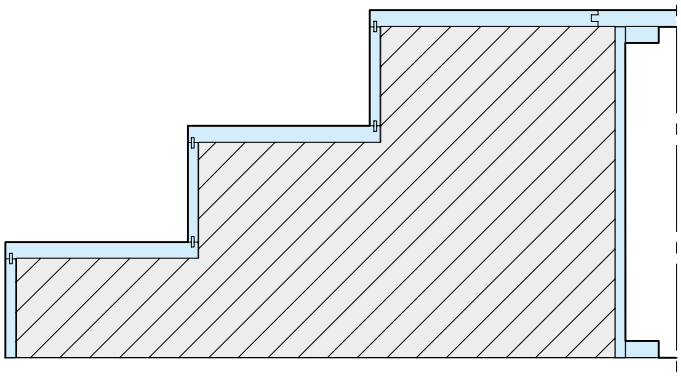
Floor plan



Design example staircase construction variant hollow floor supports

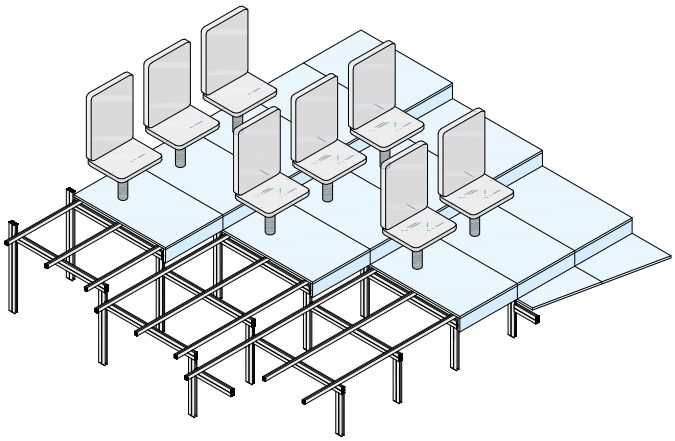


Design example staircase construction with frame

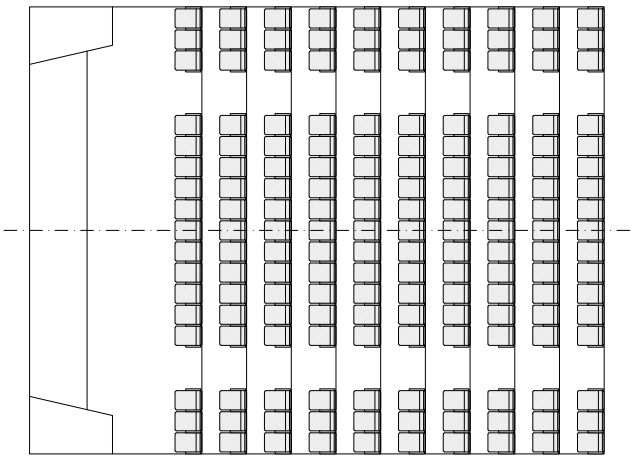


Design examples

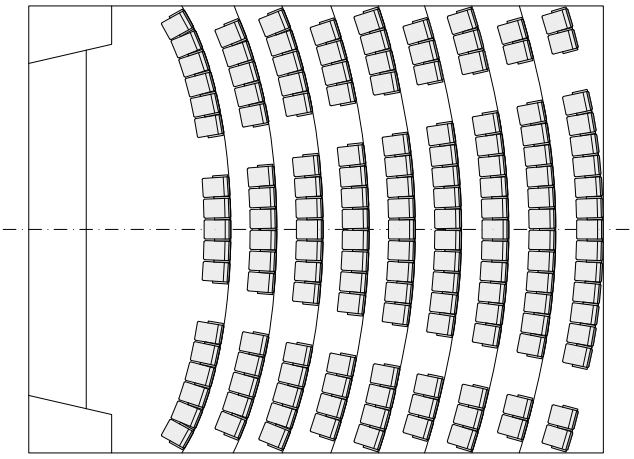
Example: Seating arrangement in a cinema / auditorium



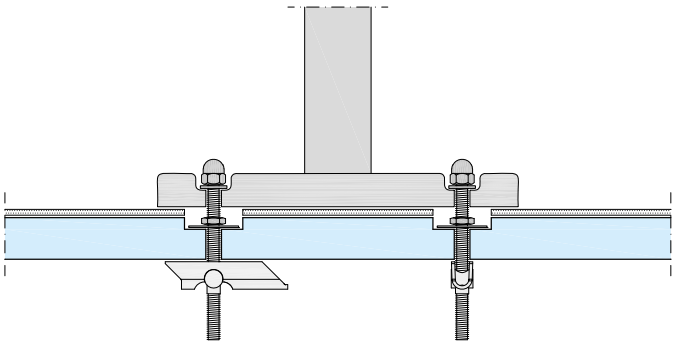
Example: Straight arrangement of the row of seats



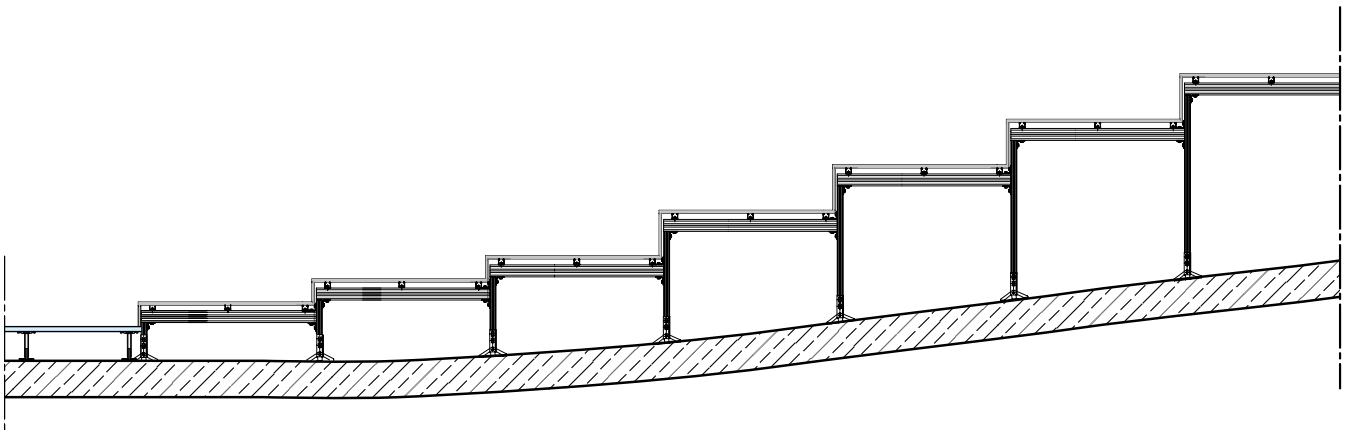
Example: Radial arrangement of the rows of seats



Example: Cinema chair fixing from above with Fischer KD 8 Tilt dowel directly to GIFAfloor FHB element



Example: Building a podium construction; in the transition area horizontal/inclined reinforced concrete ceiling



Construction

Knauf GIFAfloor FHB system floor elements are made of Knauf GIFAtec gypsum fibre material in 25, 28, 32 or 38 mm thickness, with tongue and groove edges, the LEP elements for the 2nd layer in F192.de are 18 mm thick and have a stepped rebate edge design. The edges of the elements are bonded with GIFAbond uno EC 1 for single-layer systems F191.de, GIFAbond blue can also be used. The GIFAfloor elements are laid floating on a level supporting structure. The floor is suitable for underfloor heating or cooling (see Knauf detail sheet TI Klima).
In the cavity, building services installations of all kinds can be installed anywhere under the floor. Light non-load-bearing partition walls can be placed on the GIFAfloor at any point (see p. 7).
Joints must be planned with regard to their width, arrangement and design (see Planning and arrangement of joints in detail sheet F18.de).

Substrate

The supporting structure must have the minimum load-bearing capacity corresponding to the use for the load transfer through the GIFAfloor. Take over building expansion joints at the same point in the floor.

Assembly

Attach edge insulation strips or sealing tape to the connecting components. Provide alternate or additional supports in edge areas to increase the load-bearing capacity of the floor. Fix support insulation strips to the line supports, for free-standing GIFAboard 1500 frame constructions bond with GIFAbond uno EC 1.
Cut off at least the tongues of the first element, place the element on the prepared supports and press against the edge insulation strips.
The second layer is installed with the joints offset by 90° and bonded over the entire surface to the lower load-bearing level.
Cutting of the GIFAfloor elements with e.g. (hand) circular saw with diamond-tipped saw blade and suction device or with e.g. pendulum stroke jigsaw / assembly band saw with HM-tipped saw blade.
Cut off the tongue in the edge connection area of the second and the following elements of the first row, apply tongue and groove adhesive as shown on page 12. Immediately join the panels together, press them together and align them flush.
Install the second and following rows of panels offset by at least 20 cm.
Adhesive leaking from the top and bottom of the joints indicates sufficient application and can simply be pushed off the next day with e.g. a sharp spatula.
The edge insulation strips for the end joints are always inserted into the edge joint after the last element of a row has been installed.
The GIFAfloor elements of the 2nd layer are turned by 90°, laid with offset joints and bonded over the entire surface with the 1st layer and with each other using GIFAbond duo EC 1. They are fixed immediately after insertion into the adhesive bed using compressed air or impulse nailing.
Do not walk on the installed floor for approx. 12 hours.
The floor system is fully loadable after approx. 24 hours (setting time of the adhesives).

Surface treatment and coverings

Always adopt separation, expansion, movement and connection joints of the GIFAfloor in the floor covering.
Knauf GIFAfloor floors are resistant to chair castors without any additional measures.
Prime with Knauf screed primer F431 or the primer of the adhesive system used.
Carpets require filling of the joint areas with Knauf Uniflott if necessary.
Elastic thin floors (e.g. PVC, linoleum) require a full-surface, at least 2 mm thick filling with Knauf levelling filler N 410 and a subsequent primer coating.
Install ceramic tiles and natural stone coverings with flexible adhesive systems preferably on two-layer systems F192.de. The processing instructions of the adhesive system manufacturer for the covering formats used, in particular the specified minimum adhesive bed thicknesses, must be considered. Ceramic tiles must be laid using the buttering and floating method / combined method, pushing and pressing tiles laterally into the adhesive bed. Fabrics or fleeces belonging to the adhesive system must be installed according to 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, any necessary additional measures must be planned. To further limit these deflections, e.g. install larger element thicknesses and/or e.g. additional shifts.
In domestic bathrooms, seal against water with Knauf surface tight and surface sealing tape.
Floating installation or parquet thickness ≤ 2/3 of the GIFAfloor thickness, the processing instructions of the parquet and adhesive system manufacturers for the selected type of parquet must be considered.
Liquid coatings such as filled epoxy resin coatings must be elasticised and, depending on the manufacturer, permeable to water vapour.
Check the adhesive strength of the covering/adhesive system to the GIFAfloor (make a sample if necessary).

Sustainability and environment

Brief description	Value	Unit
Requirements according to. AgBB (2015) and DIBt (2010)	Complies	–
French emission class	A+	–
IBR Award certificate	Tested and recommended	–
Eurofins Indoor Air Comfort 6.0	Complies	–
Post-consumer recycling share (mean value)	approx. 10	%
Pre-consumer recycling share (mean value)	approx. 40	%
Environmental Product Declaration	EPD-BVG-20140069-IAG1-DE	–

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 of particular relevance.

- **DGNB System**
  German seal of approval for sustainable building from the DGNB (Deutsche Gesellschaft für Nachhaltiges Bauen/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: Risks for the local environment
  Building material gypsum as ecological material, relevant environmental data are deposited in an EPD for gypsum products

Economic quality

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

Socio-cultural and functional quality

- Criterion: Convertibility
  Flexible Knauf dry construction

Technical quality

- Criterion: Fire resistance
  Comprehensive Knauf fire resistance expertise
- Criterion: Sound insulation
  Exceeding the normative requirements with Knauf sound insulation
- Criteria: Deconstructability, recyclability, ease of dismantling.
  Fulfilled with Knauf dry construction

LEED

Materials and Resources

- Credit: Recycled Content
  Recycled content in Knauf boards, e.g. FGD gypsum
- Credit: Regional Materials
  Short transport routes due to Knauf production sites throughout the country
  Detailed information on request and on the Internet at www.knauf-blue.de

Disposal

GIFAfloor waste is classified with the waste code number 17 08 02 gypsum-based construction materials, or 17 09 04 mixed construction and demolition wastes, not contaminated with hazardous substances.

Building biology

Knauf GIFAfloor has been regularly tested since 2003 by the IBR (Institute for Building Biology Rosenheim) and has been recommended by the award certificate continuously since then.

IBR

Institut für **Baubiologie** Rosenheim GmbH

Certificate of Award

Based on the excellent test results, the Seal of Approval

is hereby awarded to

KNAUF

Knauf Integral KG
D-74589 Satteldorf

for the tested product

Knauf gypsum fibreboards
(Certification-No. 3019 - 1032)

by the Institut für Baubiologie Rosenheim GmbH.

Reimut Hentschel, Managing Director
Rosenheim, February 2019

The Seal of Approval is awarded for 2 years. In the interest of consumers, follow-up testing of the products must be performed in due time before the Seal of Approval expires. The applicant will have to reapply for these tests.

IBR Institut für **Baubiologie** GmbH D-83022 Rosenheim Münchener Straße 18
Tel. +49 (0)8031 / 3675-0 Fax +49 (0)8031 / 3675-30 www.baubiologie-ibr.de

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 6.0.

eurofins

Attestation

European National Regulations on VOC emissions

On 27 February 2018, Eurofins Product Testing A/S received a sample of a ceiling panel with the product name:

GIFAboard and GIFAfloor

supplied by

Knauf Integral KG

The emissions were tested according to the regulations in Germany, France and Belgium. The test is in accordance with German AgBB (2015) and the guidelines of the DIBt (2010), the French legislation of 2011 on emission classes as specified in decree no 2011-321, and the Belgian Royal Decree C-2014/24239. Sampling, testing and evaluation were performed according to EN 16516, ISO 16000-3, ISO 16000-6, ISO 16000-9, ISO 16000-11 in the latest versions, see the test report no. 392-2018-00088701_A_DE.

The formaldehyde test result is similar to a test obtained with EN 717-1.

Evaluation of the emission test result according to Indoor Air Comfort 6.0:

- French VOC class: A+
- Carcinogenic substances were not detectable after 3 and after 28 days.
- The total of all VOC ("TVOC") and the sum of all VOC (AgBB) after 3 days both were below the limit of 10 000 µg/m³.
- The total of all VOC ("TVOC") and the sum of all VOC (AgBB) after 28 days both were below the limit of 1000 µg/m³.
- The total of all SVOC ("TSVOC") after 28 days was below the limit of 100 µg/m³.
- After 28 days the values R_D and R_8 were below the limit of 1.
- The sum of VOC without LCI_D after 28 days was below the limit of 100 µg/m³.
- Formaldehyde after 28 days was below the limit of 60 µg/m³.

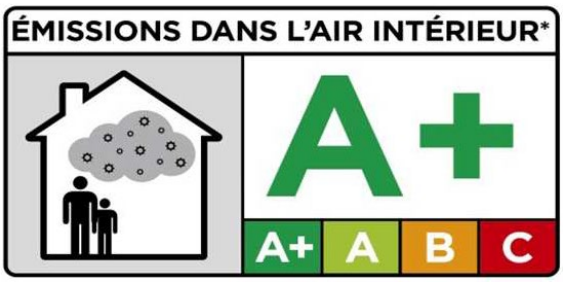
The tested product complies with referenced European regulations as of 13 April 2018

13 April 2018

Nanna Boholm
Chemist

Rasmus Stengaard Christensen
Analytical Service Manager, MSc in Chemistry

Eurofins Product Testing A/S • Smedeskovvej 38, 8464 Galten, Denmark • Tel. +45 70 22 42 76
www.product-testing.eurofins.com



Observe safety data sheet!
For safety data sheet see
pd.knauf.de

The App Knauf Infothek provides all the current information and documents from Knauf Gips KG at any time and in every location in a clear and comfortable way.
knauf.de/infothek

Knauf Direct
Technical Advisory Service:

knauf-direkt@knauf.com

www.knauf-integral.de

Knauf Integral KG Am Bahnhof 16, 74589 Satteldorf, Germany

The specifications provided in this product data sheet only apply for the panel material. System values of the raised access floor systems manufactured using these panels will be provided by the respective system supplier/raised access flooring manufacturer.