



F19 Knauf Integral *GIFAfloor* self supporting systems

F191 – Knauf Integral GIFAfloor LBS

linear bearing systems single-layer

F192 – Knauf Integral GIFAfloor LBSplus

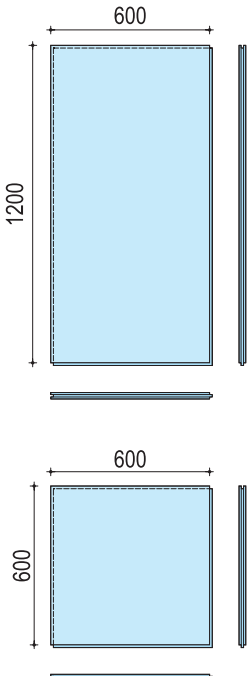
linear bearing systems double-layer

F191 GIFAfloor LBS / F192 GIFAfloor LBSplus

Technical data



GIFAfloor standardized panels

Schemes without scale	Technical data						
	Name CE marking	Sizes Panel net size mm	Thickness mm	Weights (Density ≥ 1500 kg/m³) Panel c. kg/Stk. c. kg/m²		Material number	Package- unit pcs./palett
	FHB 25	1200x600	25	27.0	37.5	31256	35 pcs./pal.
	GF-W1DIR1/1200/600/25-C1/NF	600x600	25	13.5	37.5	63565	70 pcs./pal.
	FHB 28	1200x600	28	30.2	42.0	31545	30 pcs./pal.
	GF-W1DIR1/1200/600/28-C1/NF	600x600	28	15.1	42.0	50980	60 pcs./pal.
	FHB 32	1200x600	32	34.6	48.0	31326	25 pcs./pal.
	GF-W1DIR1/1200/600/32-C1/NF	600x600	32	17.3	48.0	31559	50 pcs./pal.
	FHB 38	1200x600	38	41.2	57.0	88635	20 pcs./pal.
	GF-W1DIR1/1200/600/38-C1/NF	600x600	38	20.6	57.0	88636	40 pcs./pal.
	To increase the working load and in case of of damageable floor coverings to be put onto the GIFAfloor FHB panels						
	LEP 13	1200x600	13	14.1	19.5	30503	70 pcs./pal.
	GF-W1DIR1/1200/600/13-C1/SF						
	LEP 18	1200x600	18	19.5	27.0	99258	50 pcs./pal.
	GF-W1DIR1/1200/600/18-C1/SF						

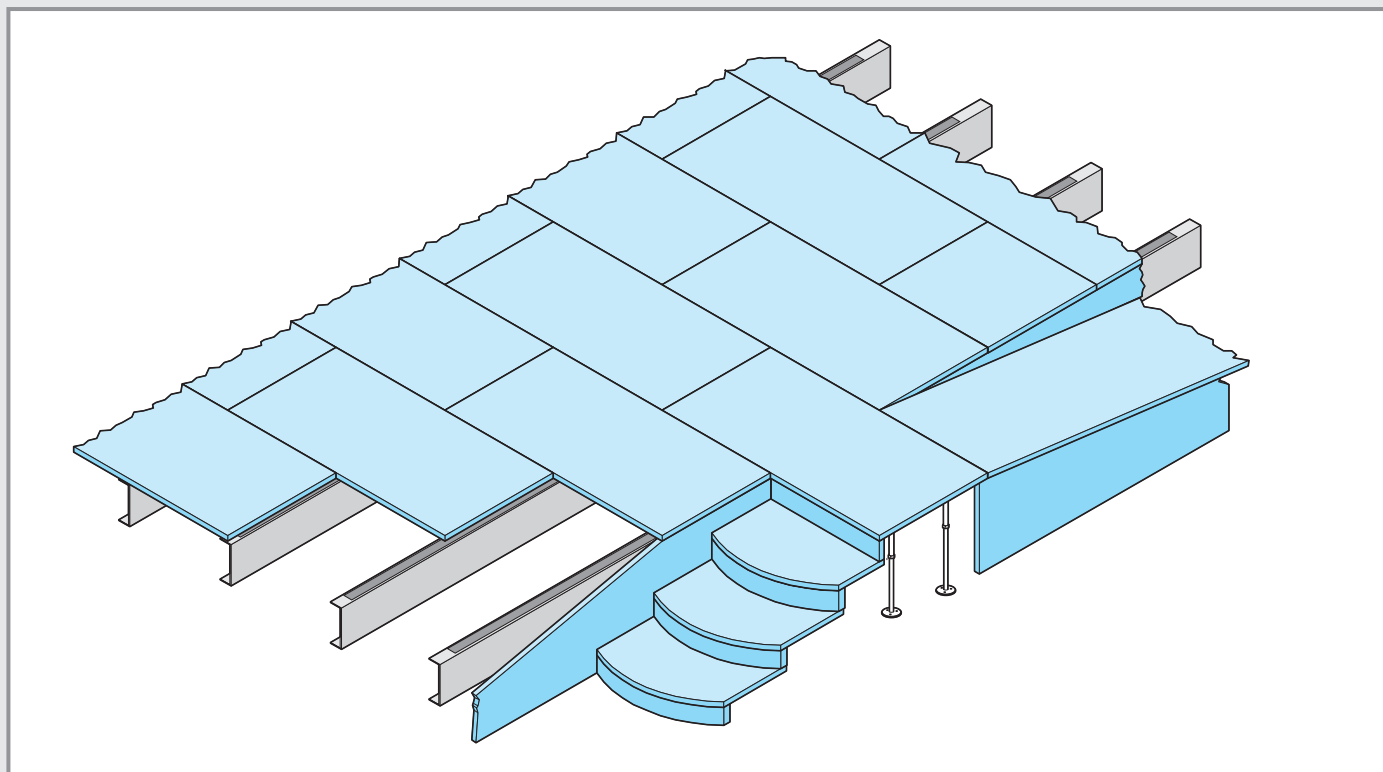
Building physical material values

	GIFAfloor FHB / GIFAfloor LEP	Unit
Fire protection		
Building material class according to EN 13501-1	A1	non-combustible
Building material class according to DIN 4102-1	A2	non-combustible
Hygrothermal values		
Conductivity of heat λ_R	0.44	W/(mK)
For floor heating systems λ_{10}	0.30	W/(mK)
Value of vapour diffusion resistance μ	30 / 50	-
Specific heat capacity c	>1000	J/(kgK)
Thermal extension coefficient α	$12.9 \cdot 10^{-6}$	1/K
Expansion / shrinkage by rise / drop in temperature	≤0.02	mm/(mK)
Expansion / shrinkage by changing the rel. air humidity on 30% at 20°C	0.6	mm/m
Hygrothermal installation conditions (stationary)	+10° to +35°C	c. 45-75% r.h.
Hygrothermal usage conditions (stationary)	-10° to +35°C	c. 35-75% r.h.
surface water absorption capacity acc. to EN20535 (acc. Kopp)	<300	g/m²
Value of vapour diffusion resistancel μ of the optional factory-made lamination of aluminum foil on the base side	$9.6 \cdot 10^6$	practically vapour-tight
other		
Surface hardness according to Brinell	≥ 40	N/mm²
Pull off bond strength	≥ 1.0	N/mm²
Surfaces with transport protecting primer to bond dust and for reduction of water absorption capacity	yes	-

F191 GIFAfloor LBS / F192 GIFAfloor LBSplus

Construction

Combination of varying constructions



Examples of bearing structures

Wood structures

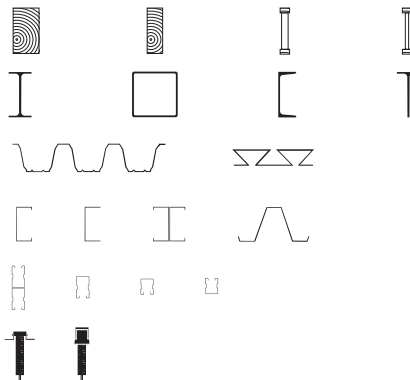
Steel beams

Trapezoid shaped metal sheets

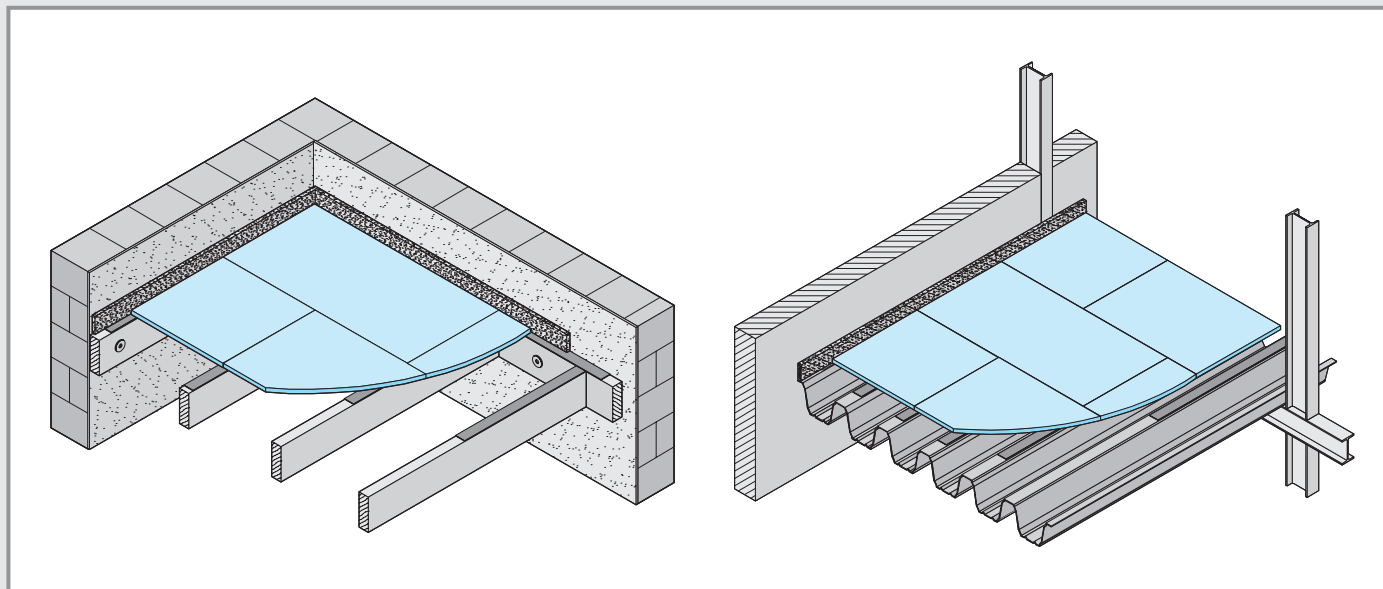
Lightweight steel profiles

Technostep system

Granab sub floor system



Positioning of the front side edges of the GIFAfloor panels on the bearing structure



F191 GIFAfloor LBS / F192 GIFAfloor LBSplus

Statics basics



No.	Utilization	Examples	Design load analogue to DIN 1055-3* kN	Standardized panel-thickness** mm
1	Without classification	Miter sills, non-passable	n/a	25
2	Cock lofts	Attics, not for residential usage but passable, clear dimension less than 1.80m	1.0	25
3	Housing and residential rooms	Rooms and corridors in residential buildings, bedrooms in hospitals, hotel rooms including kitchens and bathrooms belonging to them	1.0	25
4	Offices, working areas, corridors	Corridors in office buildings, offices, practices, ward rooms including corridors belonging to them	2.0	25
5	Offices, working areas, corridors	Corridors in hospitals, hotels, old people's homes, boarding schools etc., kitchens and ward rooms including operating theatres without heavy-load equipment	3.0	25
6	Offices, working areas, corridors	See no. 5, but including heavy-load equipment	4.0	28
7	Assembly rooms and areas to convene	Areas with tables, e.g. rooms in schools, cafes, restaurants, dining rooms / halls, reading rooms, receptions	4.0	28
8	Assembly rooms and areas to convene	Floors with fixed chairs. e.g. churches. theatres or cinemas. congress halls. lecture halls. assembly rooms, waiting rooms	4.0	28
9	Assembly rooms and areas to convene	Free passable floors, e.g. in museums, exhibition areas ..., entry areas of public buildings and hotels	4.0	28
10	Assembly rooms and areas to convene	Dancing halls, gymnastic rooms and stages	7.0	32+18
11	Assembly rooms and areas to convene	Areas for big assemblings e.g. concert halls, terrasses and entry areas, grandstands with fixed chairs	4.0	28
12	Salesrooms	Floors of stores with less than 50m ² selling area inside of residential or office buildings	2.0	25
13	Salesrooms	Floors of retail shops and department stores	4.0	28
14	Salesrooms	See no. 13, but with higher loads because of high shelves	7.0	32+18
15	Factories, workshops and and warehouses	Floors in factories and workshops with low load activities	4.0	28
16	Factories, workshops and and warehouses	Floors of warehouses and libraries	7.0	32+18

If higher loads for the project are planned, so those have to be observed for the statical dimensioning of the GIFAfloor system strictly.

* Proof acc. to EN 13213

** Example for the grid of the bearing construction of 600mm, without transverse joints, with edge supports with a grid ≤300mm

F191 GIFAfloor LBS / F192 GIFAfloor LBSplus

Characteristic static values

Allowable bearing capacities (working load in kN) for linear bearing structures*

Thickness [mm]	Row	Bearing distance [mm]**									
		≤300	≤400	≤500	≤600	≤700	≤800	≤900	≤1000	≤1100	≤1200
single-layer systems											
25	edge panel***	4	3	2.5	2	1	1	0.7	0.7	0.5	0.5
	area panel	4	3.5	3	3	3	2	2	1	1	1
28	edge panel***	5	3.5	2.5	2	2	1	1	1	0.7	0.7
	area panel	5	4.5	4	4	4	3	3	2	2	2
32	edge panel***	6	4.5	3.5	3	3	2	2	2	1	1
	area panel	6	5.5	5	5	5	4	4	3	3	2
38	edge panel***	6	5	4.5	4	3.5	3	2.5	2	1.5	1.2
	area panel	7	7	7	6	6	6	5	4	3.5	2.5
double-layer systems****											
25+13	edge panel***	4.5	4	3.5	3.5	3	3	2.5	2	1.5	1.2
	area panel	5	5	5	5	5	4.5	4.5	4	3.5	3
25+18	edge panel***	5	4.5	4	4	3	3	2.5	2	1.8	1.7
	area panel	6	5.5	5.5	5.5	5	5	4.5	4	3.5	3
28+13	edge panel***	5.5	5	4.5	4	3.5	3	3	2.3	1.7	1.5
	area panel	7	7	7	7	6.5	6	5.5	4.5	4	3.5
28+18	edge panel***	6	5	4.5	4.5	3.5	3	3	2.5	2	1.8
	area panel	7.5	7	7	7	7	6	5.5	4.5	4	3.5
32+13	edge panel***	6.5	6	5.5	5	4.5	3.5	3	2.5	2	1.8
	area panel	8	8	8	8	8	7	6	5	4.5	4
32+18	edge panel***	7	6.5	5.5	5	4.5	3.5	3	3	2.5	2
	area panel	10	9	9	9	8	7	6	5	4.5	4

* The working loads are valid for panels (first layer) without transverse joints (joints parallel to the linear bearing structure) in the zone between the bearing structure. That means joints have to be located on area of support. The values have to be reduced by 50% if there are joints in the zone between the bearing structure.

** It is prohibited to install two successive transverse joints in the FHB panels row within one field between two beams.

*** If the support spacing at the edges is ≤ 300 mm or if there is a linear bearing structure at the edge the working loads of the area panels could be used. (see example bottom page 8).

**** If the second layer of panels is weakened by milling, so the load bearing capacity of „the bottom layer solely“ is valid.

Je nach konstruktivem Aufbau sind Konstruktionen mit Brandschutz bis F90 möglich.

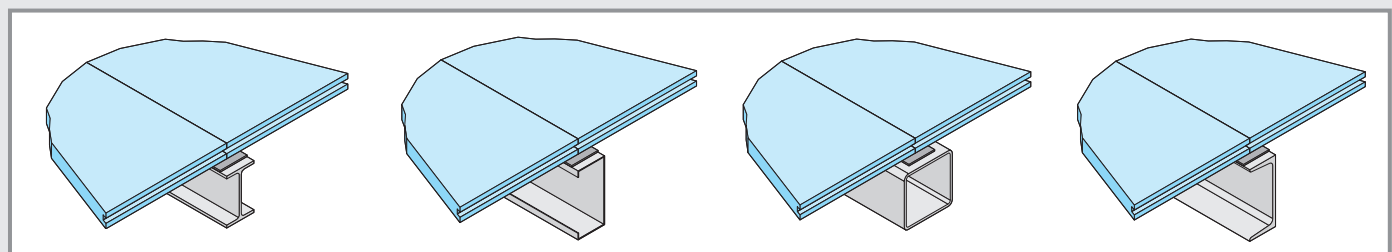
Load classes of hollow floors acc. to EN 13213

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

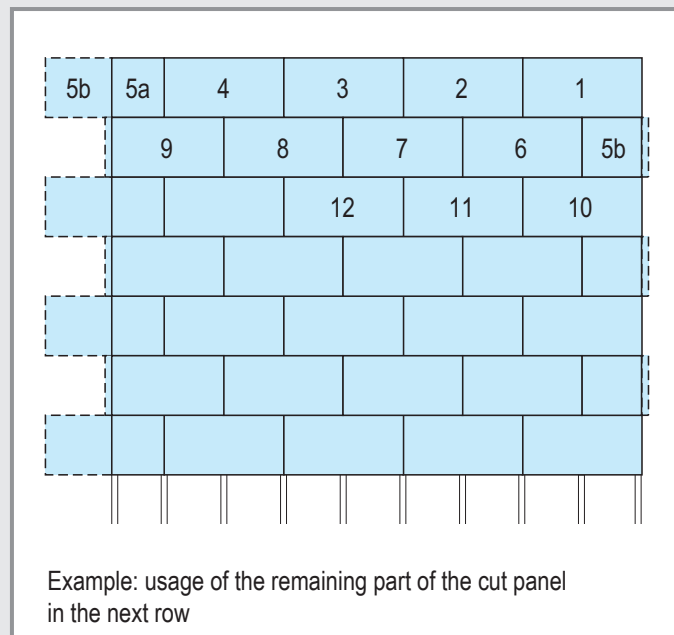
The EN 13213 hollow floors defines the test procedures and classifications of hollow floor systems. Area loads should not be taken as criterion, only the point load is the determining factor.

Test by an indenter 25x25mm (simulation of a point load) until fail of the panel at specimens weakest position.

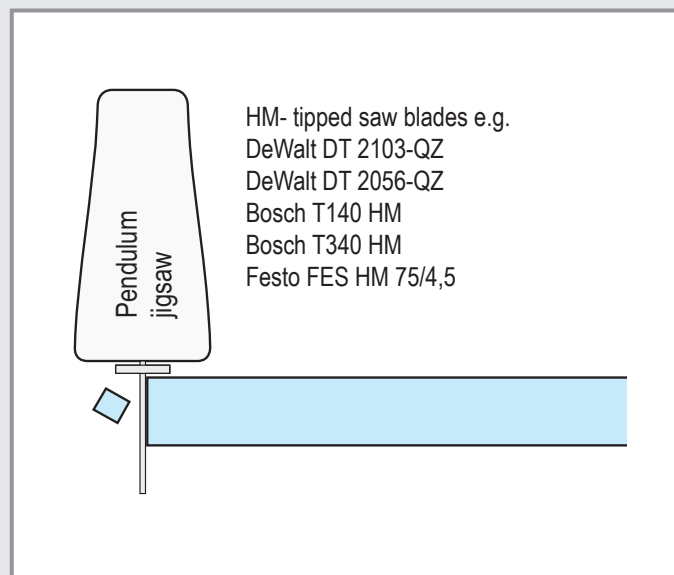
Joints to be located on center of the supporting profiles (width ≥ 60mm)



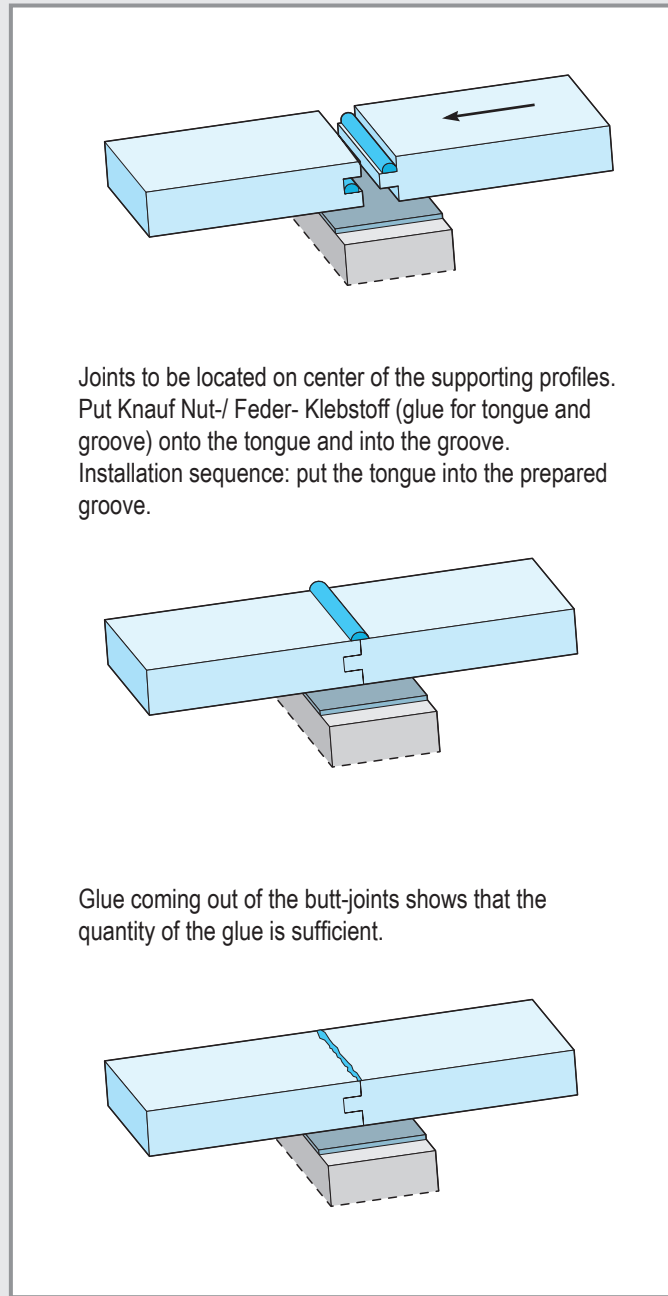
Laying the panels (without scale)



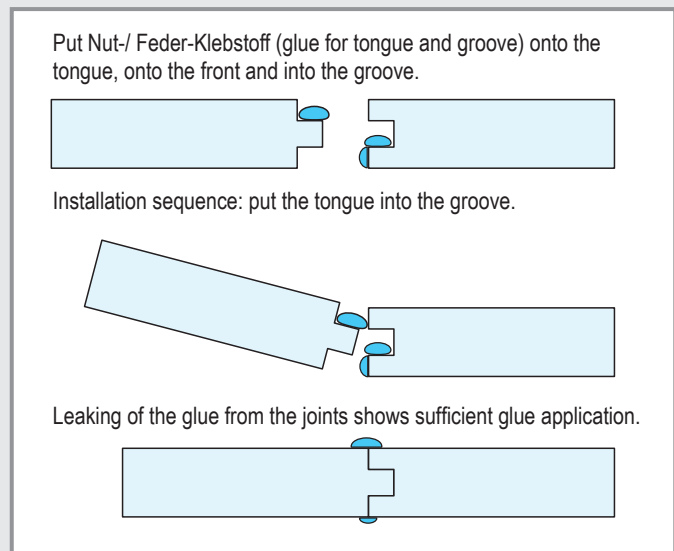
Cut tongue of the panels at the wall connection joints



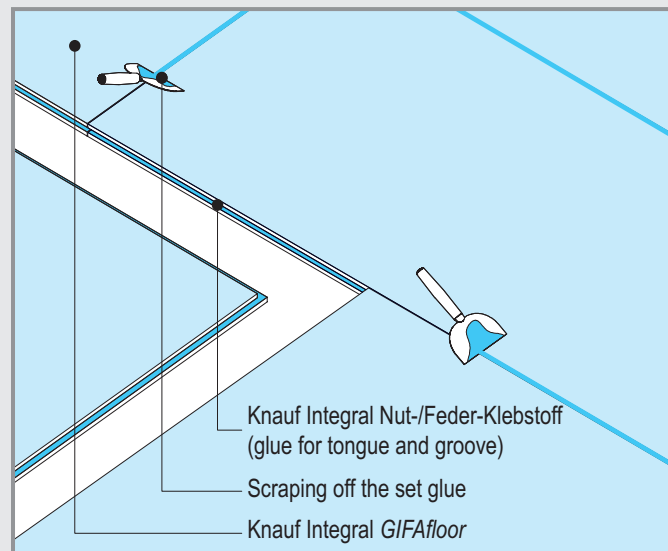
Glueing and junction of the tongue and groove



Glueing of the panels



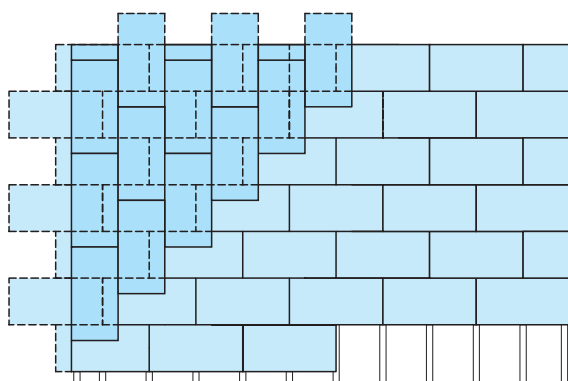
Scraping off the set glue



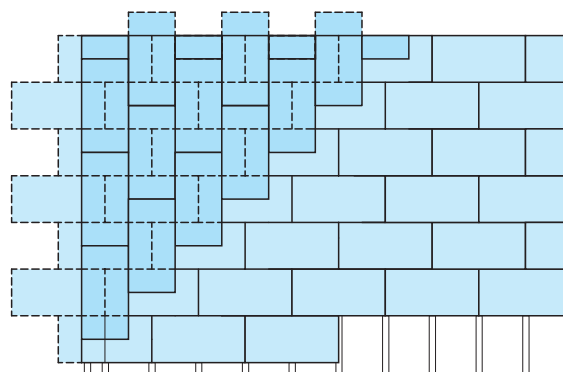
F192 GIFAfloor LBSplus

Application and processing of the second layer

Laying the panels of the second layer turned 90° to the first layer (without scale)

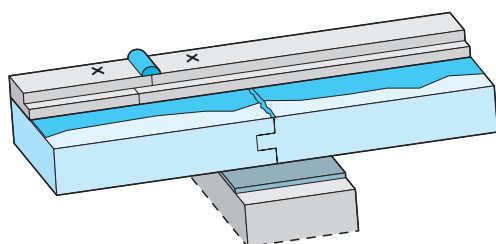
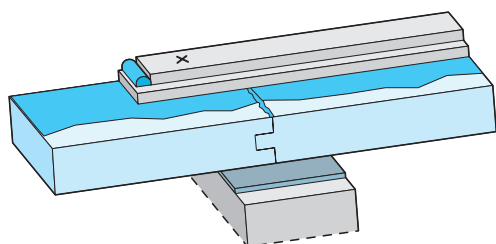
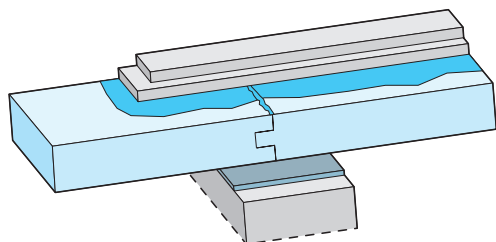
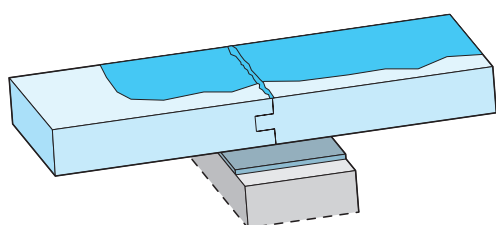


Shifting the joints of the second layer at least 20cm



Optimum shifting of the joints 30cm

Application and glueing of the second layer

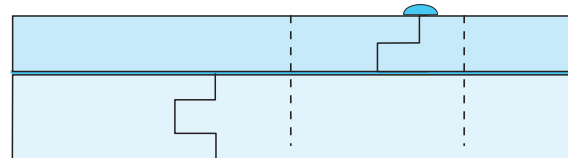


Section of the notched blade TKB B3 (scale 1:1)



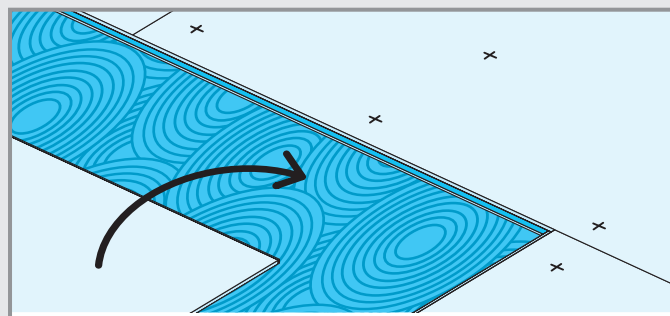
Laying of the second layer (drawings without scale)

Put the glue holohedral onto the area and onto the rabbet



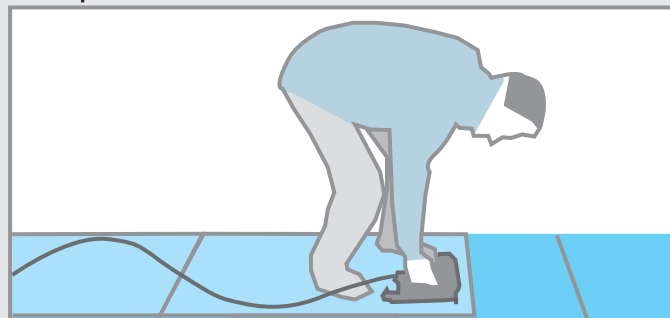
Put the LEP panel into the glue immediately, load and nail it.

Put the LEP panel into the glue immediately after glue application



Put Flächenklebstoff (glue for the 2nd layer) onto the first layer holohedral and onto the rabbet. Load it after positioning and nail it with a nailer.

Fixing with compressed air / impulse nailer while standing on the panel

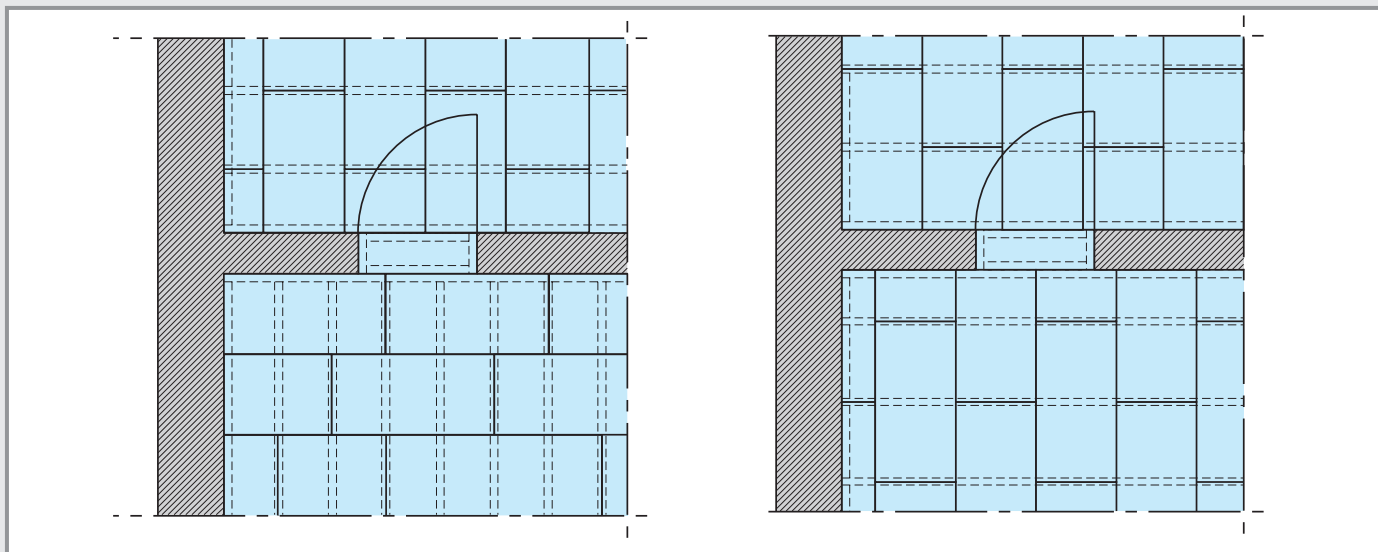


Compressed air nailer for brads: e.g. bradder Paslode FN 1665.1 (operation air pressure: 8.0 bar); brads e.g. Paslode F16x29 or Haubold SKN 16/30 C NK or SKN 16/25 C NK; gas impulse nailer: e.g. ITW impulse nailer IM65F 16 B-pack 19-64mm; brads e.g. pack F16-25mm (fuelcells + galv. brads)

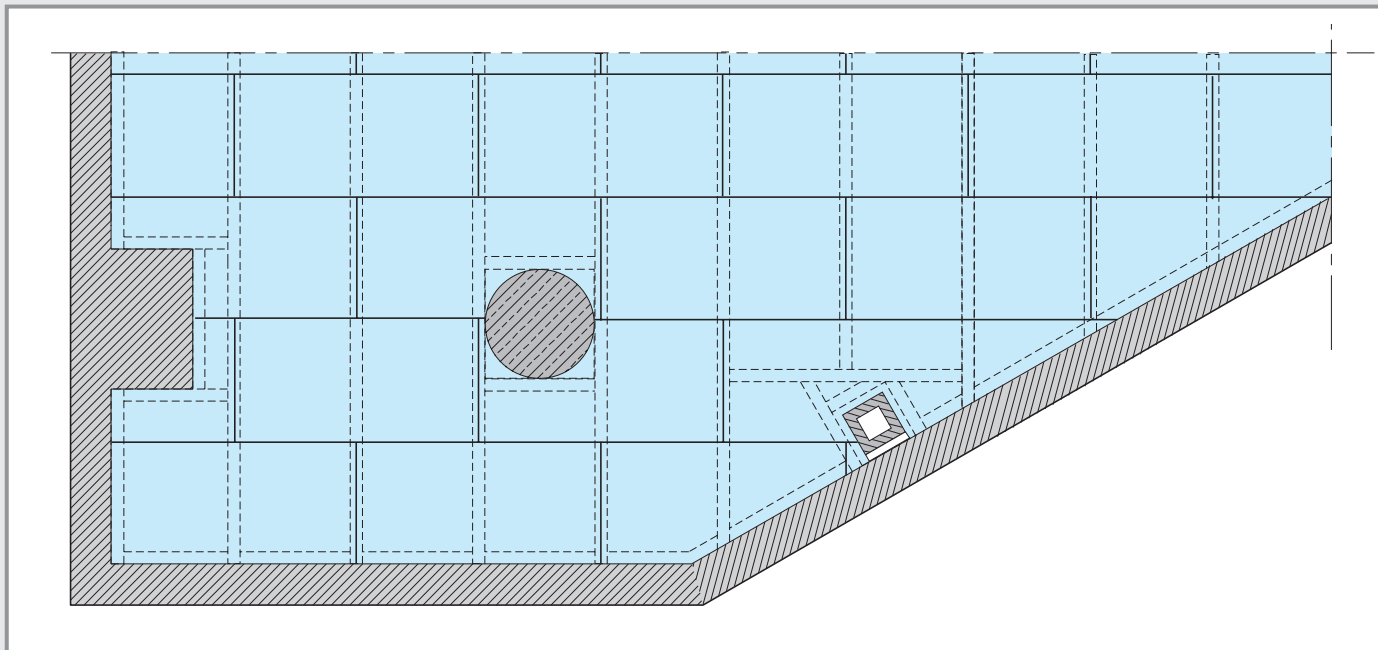
F191 GIFAfloor LBS / F192 GIFAfloor LBSplus

Bearing structures

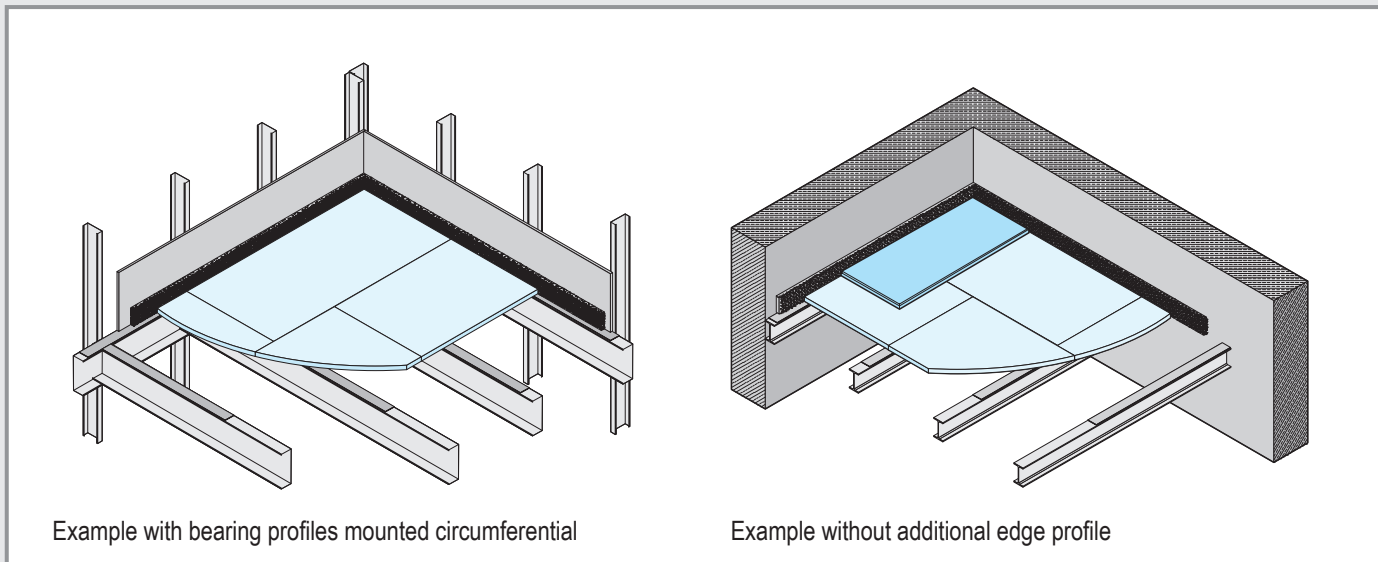
Examples for structures of load bearing profiles (shown: single-layer system F191 GIFAfloor LBS; without scale)



Insertion of trimmer beams and boundary beams (shown: single-layer system F191 GIFAfloor LBS; without scale)



F191 GIFAfloor LBS on SBS and F192 GIFAfloor LBSplus on steel beams (without scale)



Example with bearing profiles mounted circumferential

Example without additional edge profile

F191 GIFAfloor LBS / F192 GIFAfloor LBSplus

Requirements of material and environmental features



Requirements of material

Material	Mat.-No.	Unit	required quantity*
Knauf Integral support insulation stripe	91287	100m / carton (= 5 rolls)	as required
Knauf Integral edge insulation stripes for GIFAfloor floor systems	109147	50 pcs. / carton	as required
Knauf Integral foam insulation stripe self-adhesive sk	74339	5x10 rolls / bag 20 bags / carton	as required
GIFAfloor panel FHB 1200x600mm	see table p.2		c. 1,39 pc. / m ²
GIFAfloor panel FHB 600x600mm	see table S.2		as required
GIFAfloor panels LEP 13	30503	see table p.2	as required
GIFAfloor panels LEP 18	99258	see table p.2	as required
GIFAtec large-sized gypsum fibre panels	see table Knauf Integral technical information sheet TI GIFAtec page 2 or on request		as required
Knauf Integral Nut- / Feder-Klebstoff (glue for tongue and groove)	141974	20 pcs. tubular bags à 600ml (~900g) / carton	F191 c. 82m ² /carton F192 c. 54m ² /carton + glue for 2nd layer
Knauf Integral application gun for film tubes (tubular bags)	4675	pc.	as required
Knauf Integral Flächenklebstoff (glue for the second layer)	141975	15kg-pail	c. 600g/m ²
Coloquick spreader	4696	pc.	as required
Notched blades TKB B3 double sided for Coloquick spreader	4697	12 pcs. / pack	as required
Knauf floor screed primer F431	5355	10kg-pail	c. 200g/m ²

* Specification refers to a room dimension of 10x10m. Different room dimensions may cause different quantities.



Institut für Baubiologie Rosenheim GmbH

CERTIFICATE OF AWARD

Based on the excellent test results, the Seal of Approval



is hereby awarded to

Knauf Integral KG
D-74589 Satteldorf

for the test items

Knauf Integral GIFAtec / GIFAfloor
gross density classified 1100 / 1500 kg/m³

by the Institut für Baubiologie Rosenheim GmbH.

Reimut Hentschel, Managing Director

Rosenheim, March 2011

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 Rosenheim GmbH D-83022 Rosenheim Heilig-Geist-Str. 54 Phone +49(0)8031 3675-0 Fax +3675-30
Managing Director: Reimut Hentschel Commercial Register: HRB Traunstein 5362 VAT ID: DE 131182830
info@baubiologie-ibr.de www.baubiologie-ibr.de



Certificate

On 25th of June 2004 Eurofins Denmark A/S received a sample of a fibre reinforced calcium sulphate panel with edge trim around the panel edges, panel thickness 28 mm, bare finish on top and bottom with the name

GIFAfloor
Knauf Integral KG

The emissions were tested according to the AgBB-scheme and guidelines of the DIBt (AgBB - Committee for Health-related Evaluation of Building Products, DIBt - German Institute for Building Technology). Sampling, testing and evaluation were performed according to EN 13419-1, EN 13419-3, ISO 16000-3, ISO 16000-6, ISO 16000-9, ISO 16000-11, ISO 16017-1 in the latest versions, see the test report no. 211019-71-181.

Evaluation of the test result according to AgBB guidelines:

- Carcinogenic substances were not detectable after 3 and after 28 days.
- The sum of VOC ("TVOC") after 3 days was below the limit of 10.000 µg/m³.
- The sum of VOC ("TVOC") after 28 days was below the limit of 1.000 µg/m³.
- The sum of SVOC after 28 days was below the limit of 100 µg/m³.
- After 28 days the value R was calculated from the detected VOC with single concentrations above 5µg/m³. This value R was below the limit of 1.
- The sum of VOC without LCI-value after 28 days was below the limit of 100 µg/m³.
- Formaldehyde after 28 days was below the limit of 120 µg/m³.

The tested product is suitable for indoor application, according to the AgBB guide line (version July 2004).
25th of August 2005

Inge Bondegaard
Chemical engineer

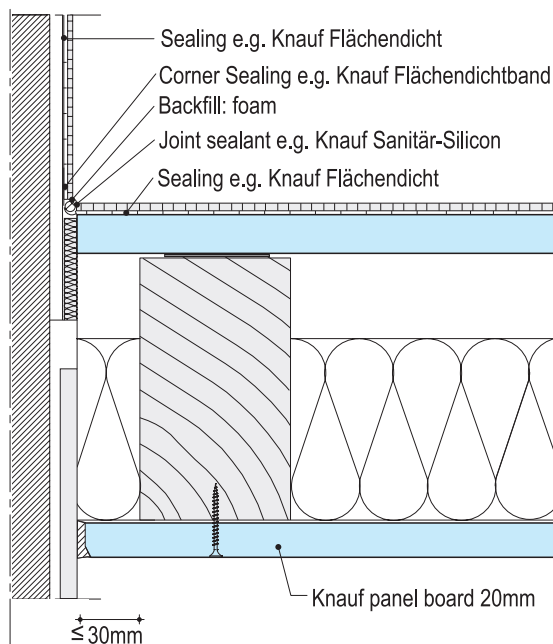
Thomas Neuhaus
Environmental engineer

Eurofins Denmark A/S
Smørumvej 36
DK-8464 Galten /
Denmark
Tel +45 70 22 42 66
Fax +45 70 22 42 55

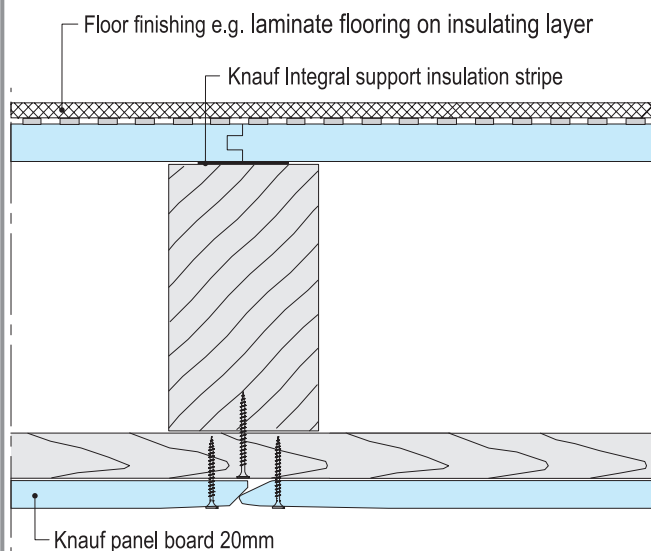
F191 GIFAfloor LBS

Vertical sections single-layer system (shown: GIFAfloor FHB25, scale 1:5)

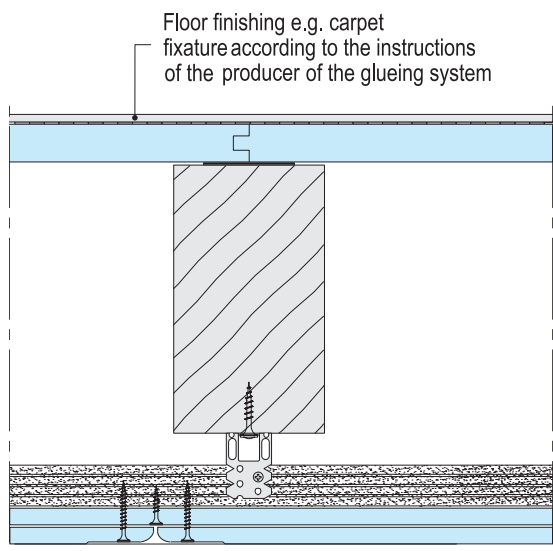
F191-V6 Junction GIFAfloor LBS to massive wall, example: bathroom



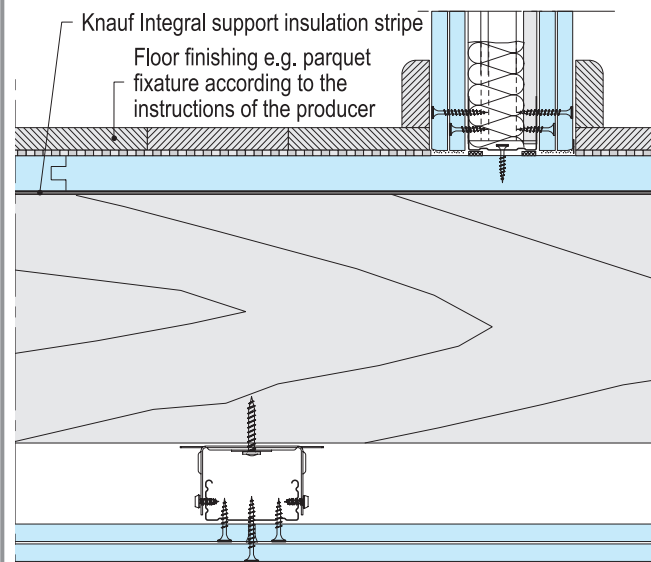
F191-V9 GIFAfloor LBS on wood beam



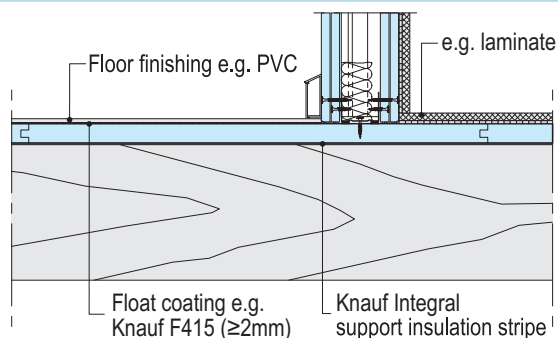
F191-V7 GIFAfloor LBS joint, Knauf D111 underneath



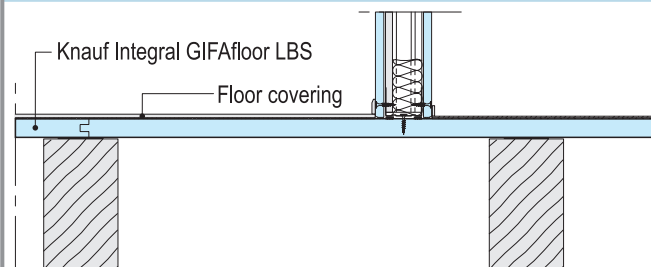
F191-V12 GIFAfloor LBS on wood beam with parquet, Knauf W112 on top, Knauf D111 underneath



F191-V11 GIFAfloor LBS on wood beam, Knauf W112 on top (scale = 1:10)



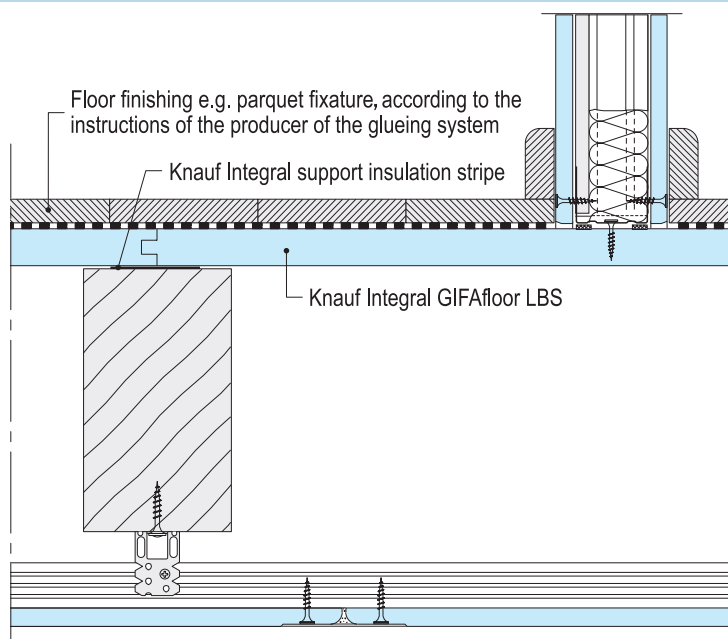
F191-V14 GIFAfloor LBS on wood beam, Knauf W111 on top (scale = 1:10)



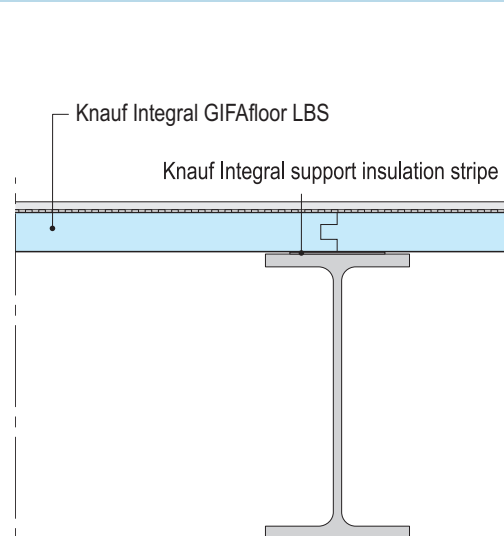
F191 GIFAfloor LBS

Vertical sections single-layer system (shown: GIFAfloor FHB25, scale 1:5)

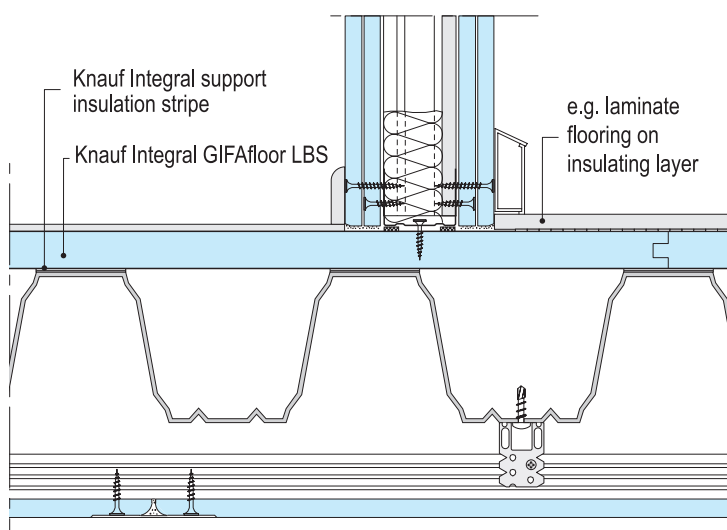
F191-V15 GIFAfloor LBS on wood beam with parquet, Knauf W111 on top, Knauf D111 underneath



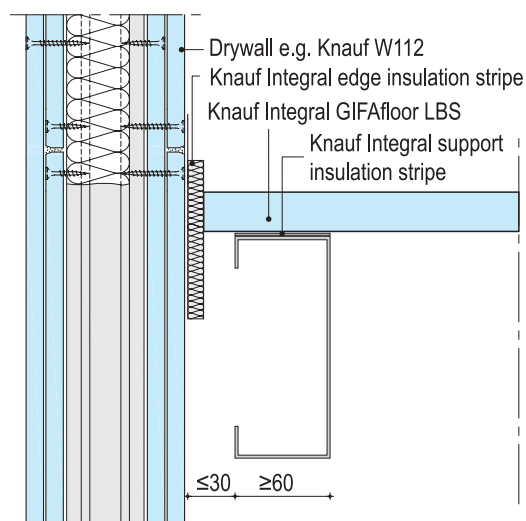
F191-V5 GIFAfloor LBS on steel beam



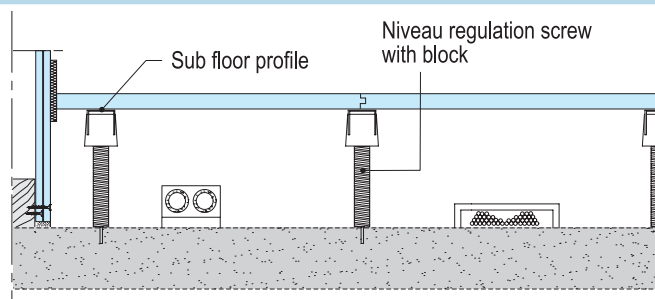
F191-V16 GIFAfloor LBS on trapezoid shaped metal sheet, Knauf W112 on top, Knauf D111 underneath



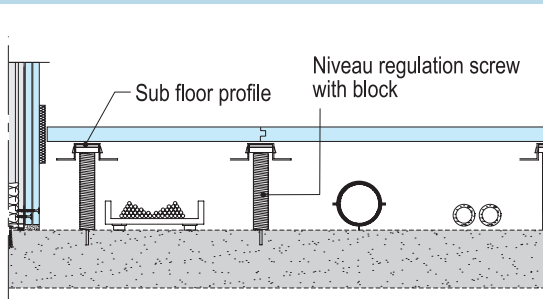
F191-V1 Junction GIFAfloor LBS on light-weight steel profiles to Knauf W112



F191-V18 GIFAfloor LBS on sub floor system Granab 7000 Granab 7000 (scale = 1:12,5)



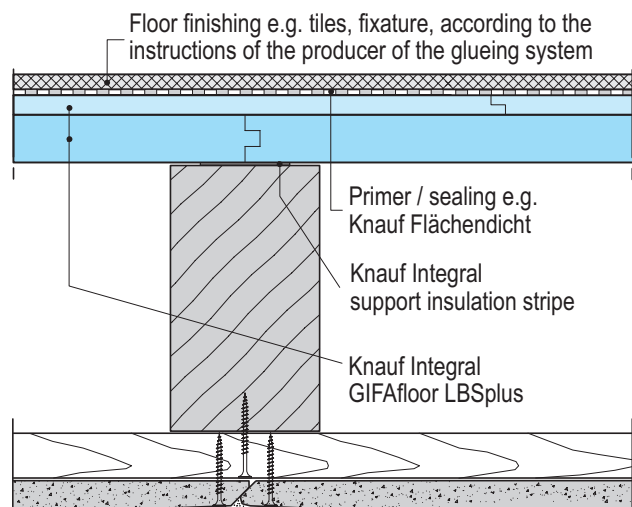
F191-V17 GIFAfloor LBS on sub floor system Granab 100 (scale 1:12.5)



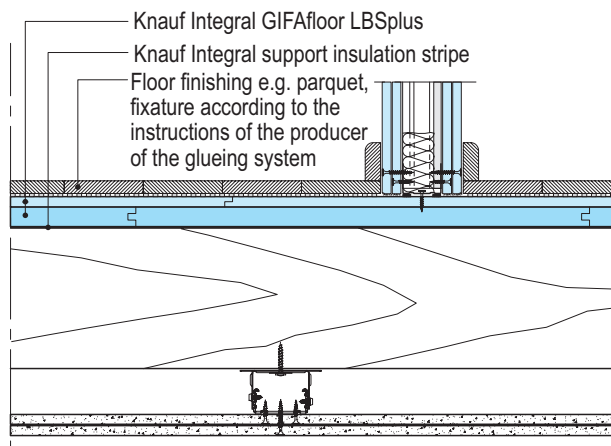
F192 GIFAfloor LBSplus

Vertical sections double-layer system

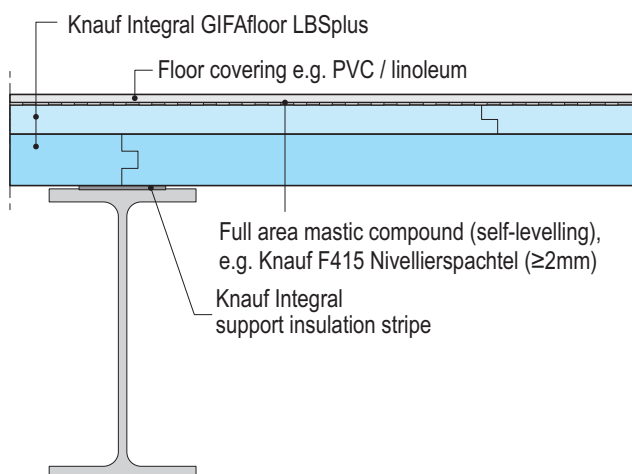
F192-V29 GIFAfloor LBSplus 32+13 on wood beam, Knauf D111 underneath (scale = 1:5)



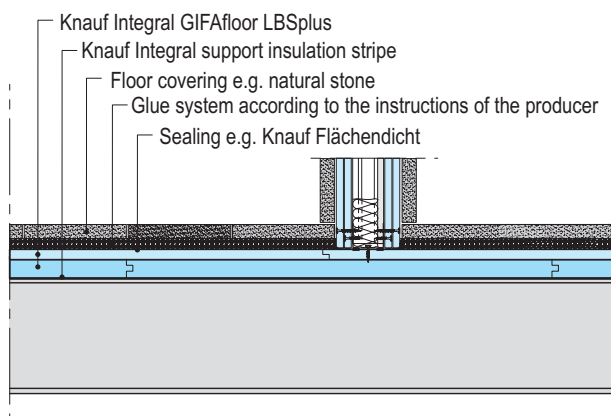
F192-V32 GIFAfloor LBSplus 28+13 on wood beam, Knauf W112 on top (scale = 1:10)



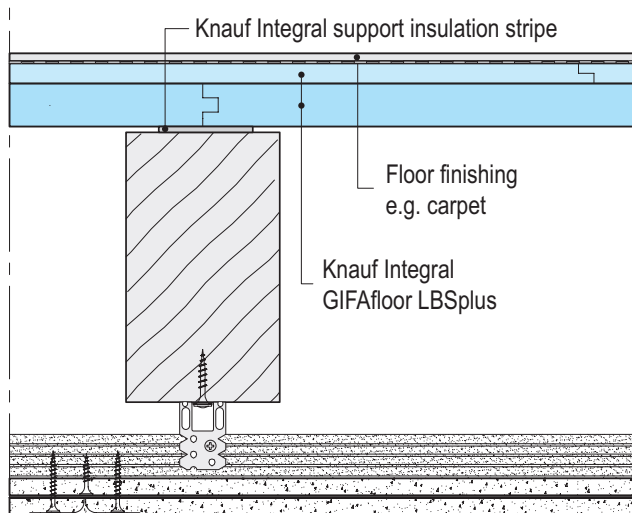
F192-V25b GIFAfloor LBSplus 32+18 on steel beam (scale = 1:5)



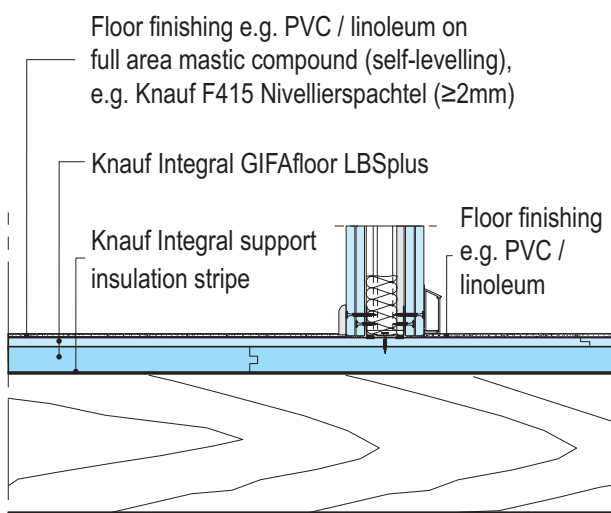
F192-V37 GIFAfloor LBSplus 25+13 on steel beam, Knauf W112 on top (scale = 1:10)



F192-V27 GIFAfloor LBSplus 28+13 on wood beam, Knauf D111 underneath (scale = 1:5)



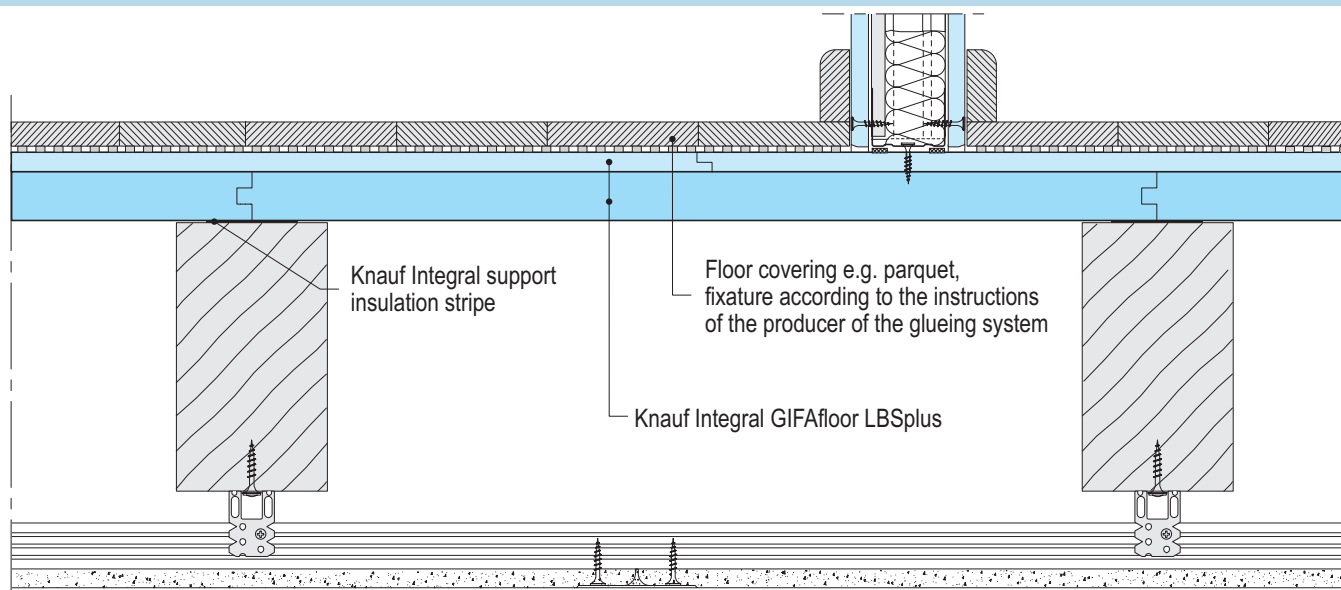
F192-V31 GIFAfloor LBSplus 32+13 on wood beam, Knauf W112 on top (scale = 1:10)



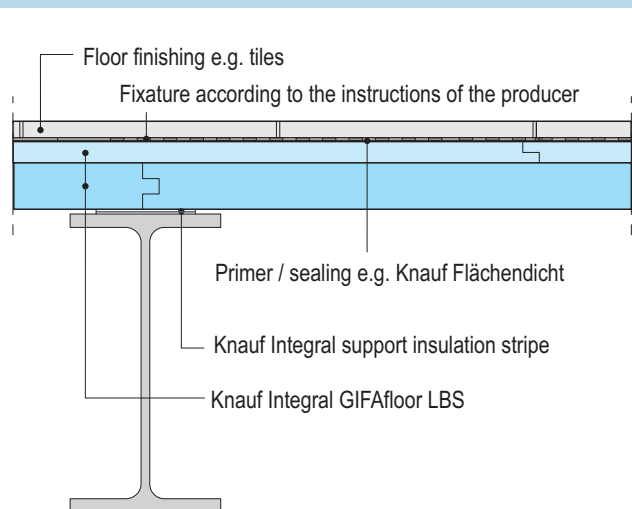
F192 GIFAfloor LBSplus

Vertical sections double-layer system

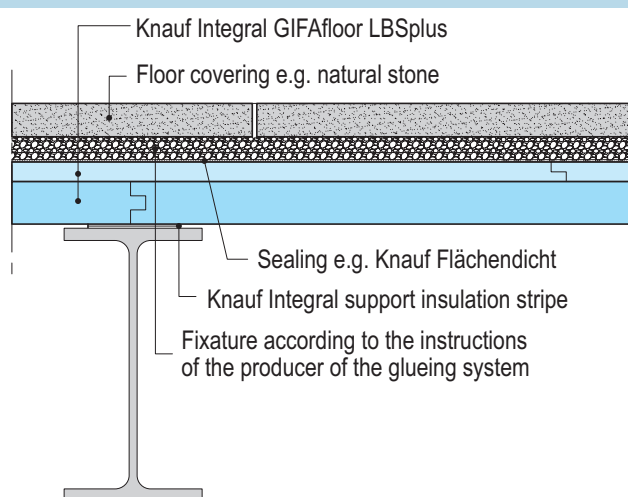
F192-V35 GIFAfloor LBSplus 32+13 on wood beam, Knauf W111 on top, Knauf D111 underneath (scale = 1:5)



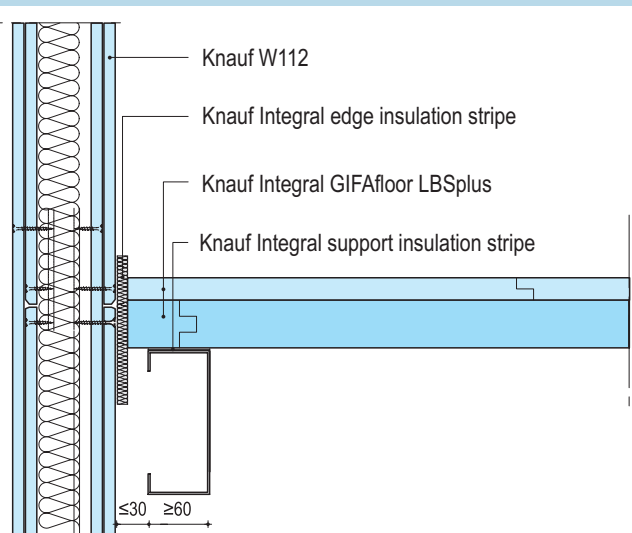
F192-V25c GIFAfloor LBSplus 28+13 on steel beam (scale = 1:5)



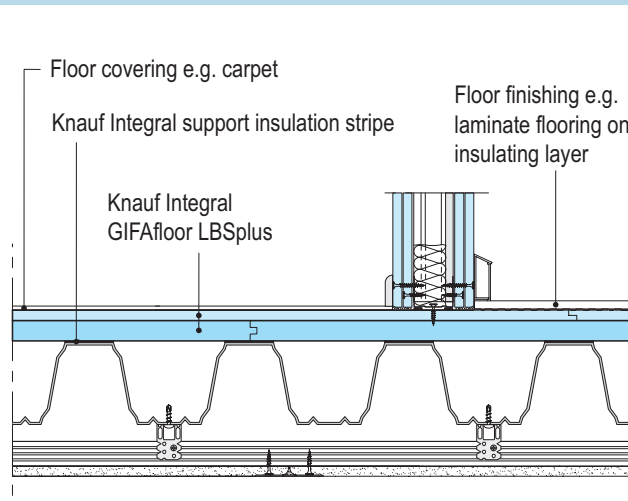
F192-V25d GIFAfloor LBSplus 25+13 on steel beam (scale = 1:5)



F192-V21 GIFAfloor LBSplus 28+13 on lightweight steel profiles, junction to Knauf W112 (scale = 1:5)



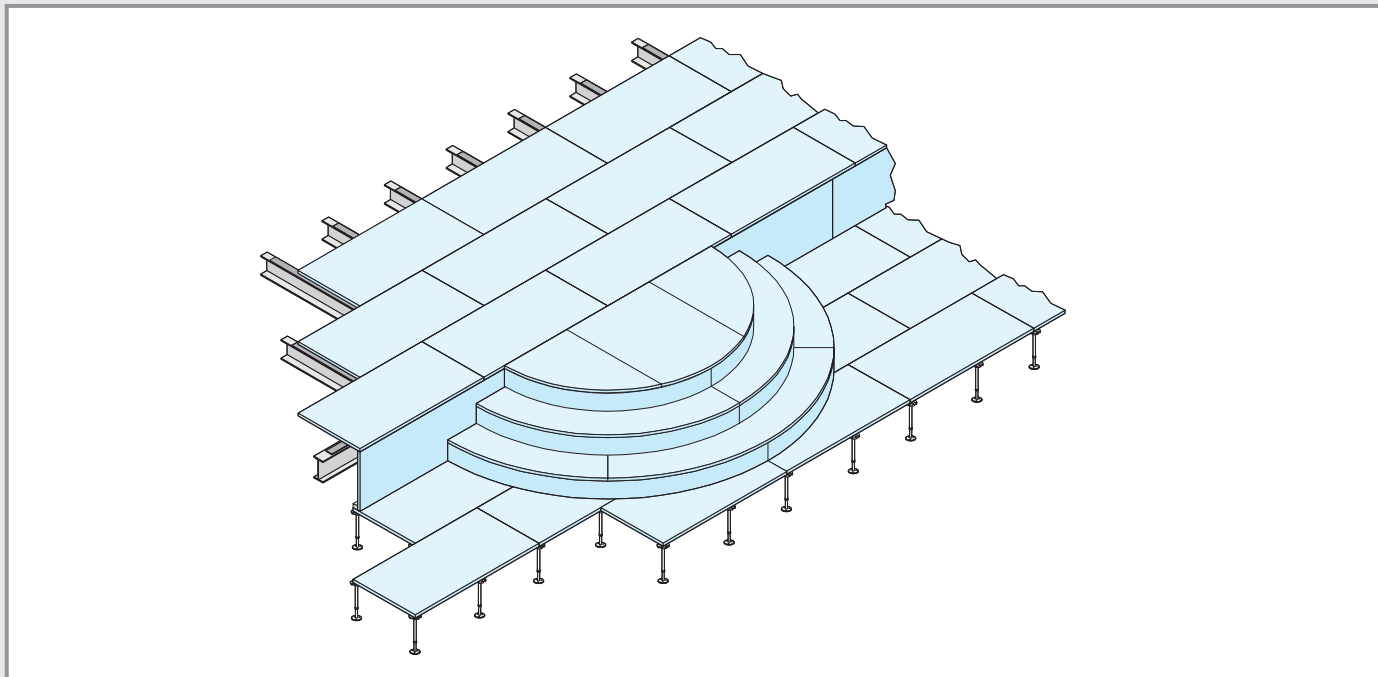
F192-V36 GIFAfloor LBSplus 25+13 on trapezoid shaped metal sheet, Knauf W112 on top, Knauf D111 underneath (scale = 1:10)



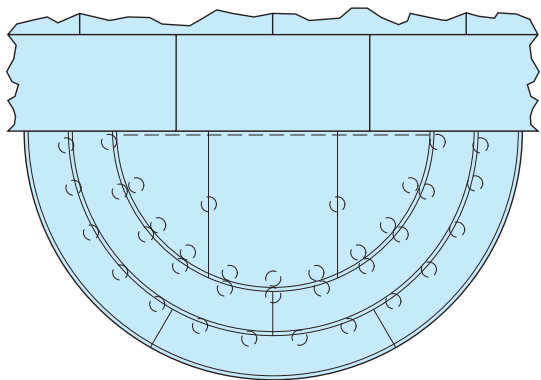
F191 GIFAfloor LBS

Transition GIFAfloor FHB F181 to GIFAfloor LBS F191

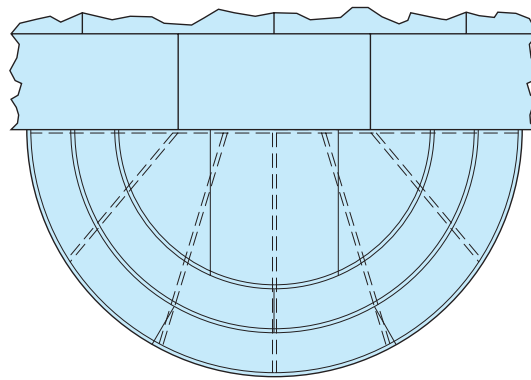
Example: stairs put on GIFAfloor FHB F181



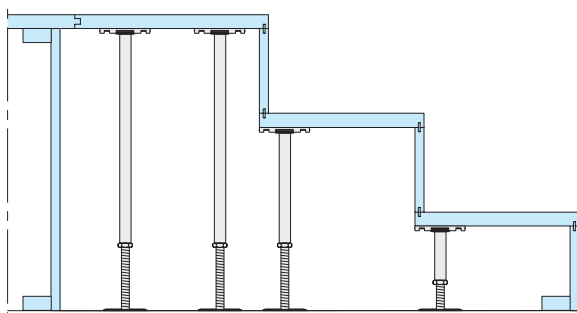
Examples of possibilities of various bearing structures (without scale)



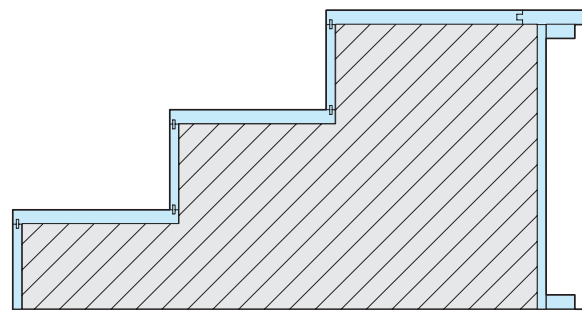
Ground floor plan: hollow floor steel supports



Ground floor plan: GIFAttec 1500 frames

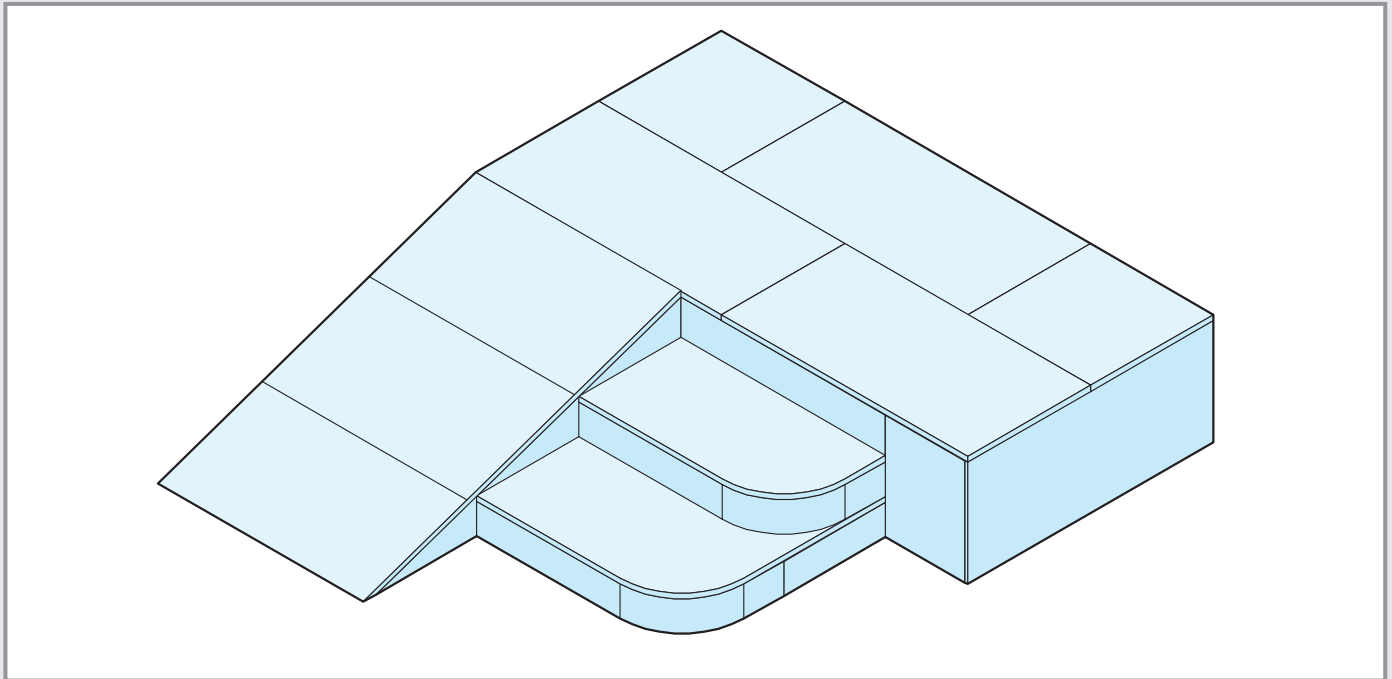


Vertical section: hollow floor steel supports

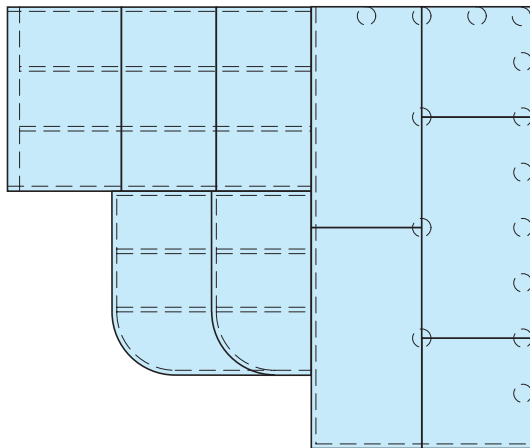


Vertical section: GIFAttec 1500 frames

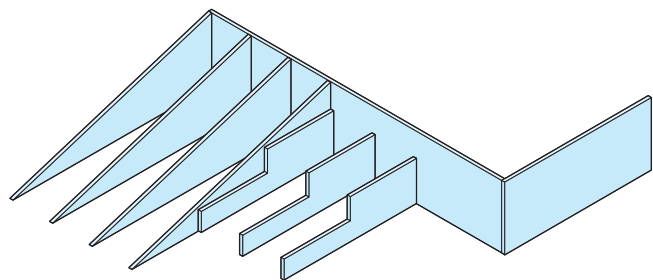
Example: ramp / stair combination



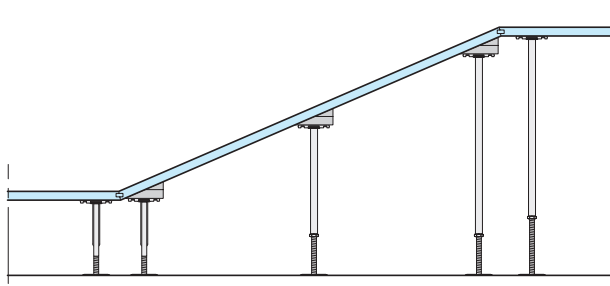
Examples of possible various bearing structures (without scale)



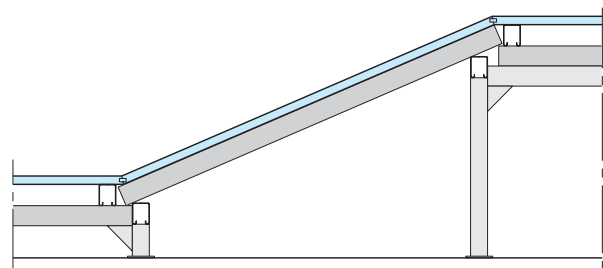
Ground floor plan



Option: GIFatec 1500 frame construction



Option: hollow floor steel supports and wedge lath

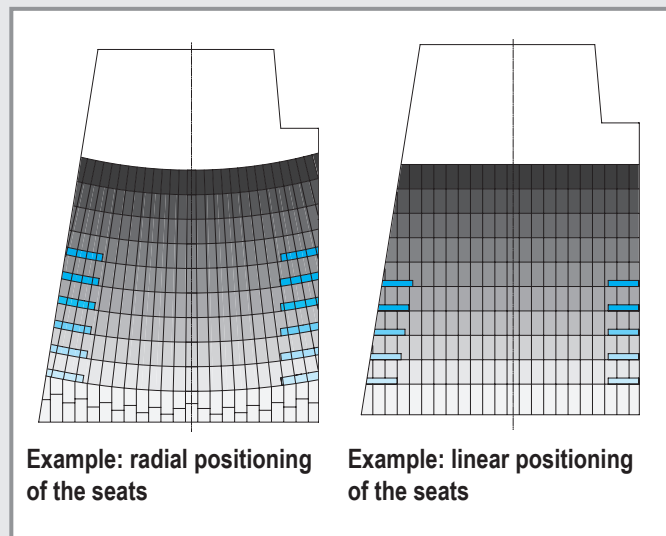
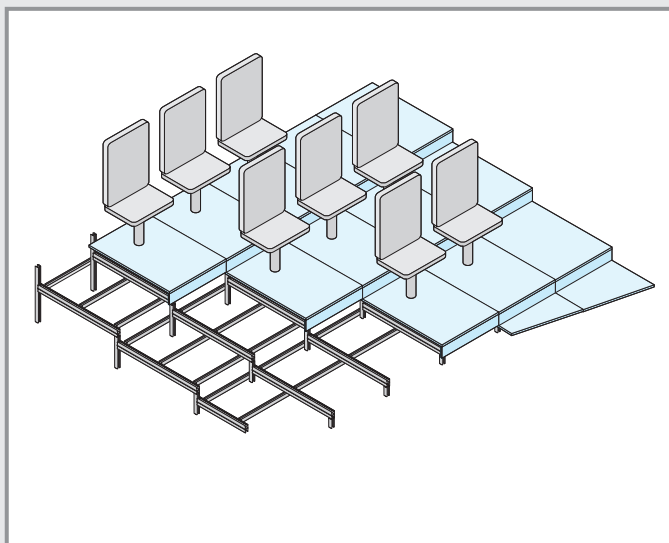


Option: screwed light weight structure

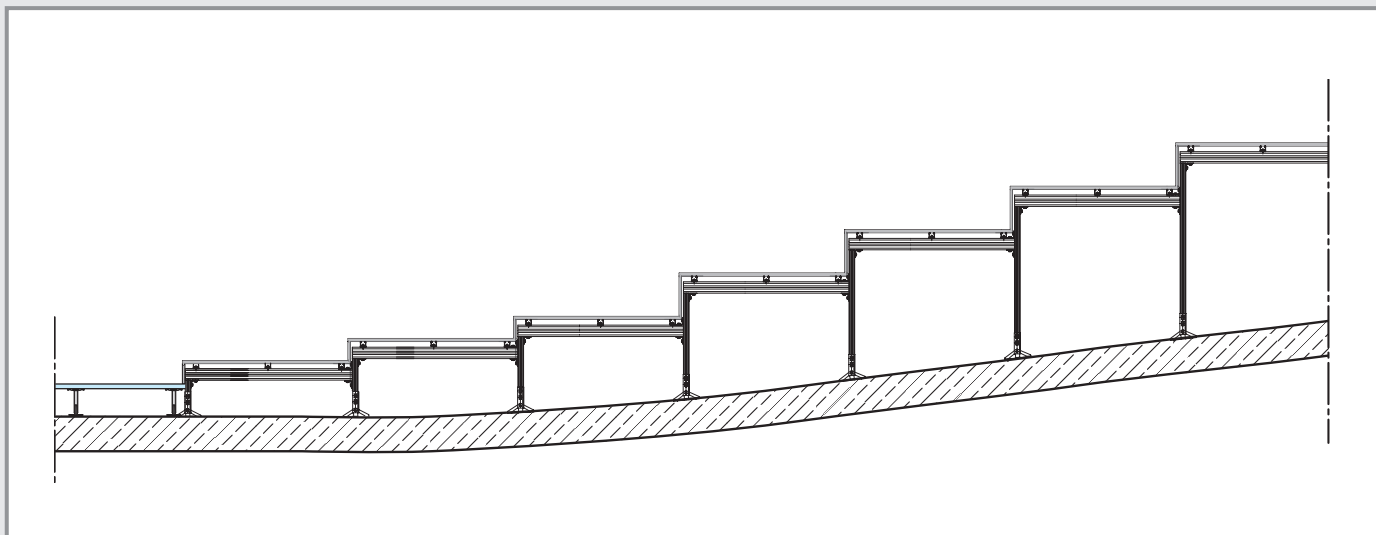
F191 GIFAfloor LBS

Example movie theatre / auditorium

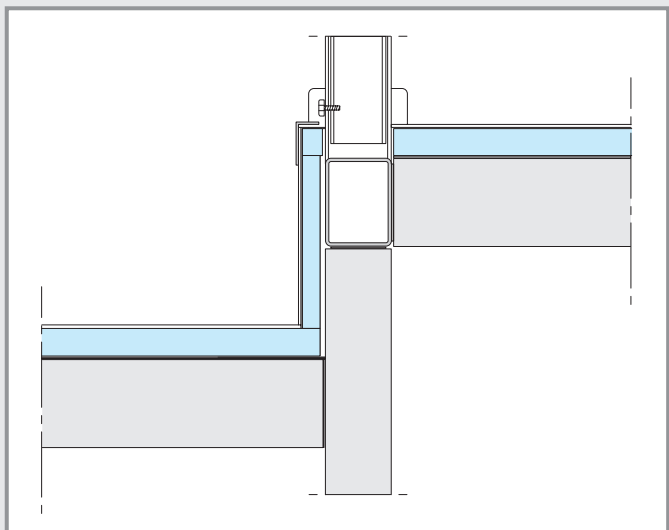
Seat positioning in a movie theatre / auditorium



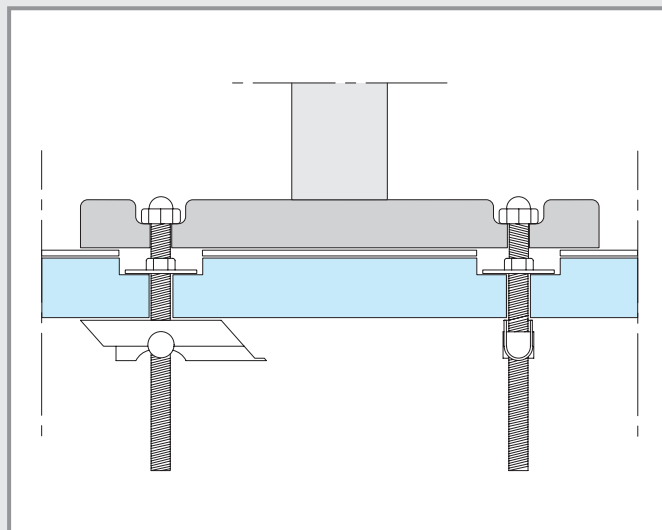
Technostep system in the transition area of a horizontal to a rising concrete slab



Example: fixture of an auditorium table to a welded structure



Example: fixture of a cinema chair from top side directly to the GIFAfloor panel by usage of the gravity toggle Fischer KD 8



F191 GIFAfloor LBS / F192 GIFAfloor LBSplus

Specifications



Pos.	Description	Quantity	Unit price	Total price																						
.....	<p>Floor system/ramp system Knauf Integral GIFAfloor LBS F191 single-layer or equivalent, supported by built in situ accurately levelled linear bearing structure made by GIFatec 1500, wood, iron beams, metal profiles or trapezodial sheet metal*, consists of Knauf Integral support insulation stripes fixed on the supporting structure and one layer GIFAfloor FHB panels put as a floating system on them.</p> <p>Panels' connection by glued tongue and groove system with staggered joints to get big plates beeing ready for floor covering. Position the front edge joints in the middle of the area of the supporting structures preferably to raise the load bearing capacity of the system.</p> <p>Alternative: Small ramps could be fixed to prefabricated, free-standing GIFatec 1500 frames.</p> <p>Technical demands:</p> <table><tr><td>Producer:</td><td>Knauf Integral</td></tr><tr><td>Type:</td><td>F191 GIFAfloor LBS 25/28/32/38*</td></tr><tr><td>Size of the panels:</td><td>1200x600mm t&g / 600x600mm t & g</td></tr><tr><td>Thickness / density:</td><td>....mm / 1500kg/m³</td></tr><tr><td>Working load:</td><td>.....N acc. EN 13213</td></tr><tr><td>Building material class:</td><td>A1 acc. EN 13501-1</td></tr><tr><td>Structural module of the supports:</td><td>.....mm</td></tr><tr><td>Trimmers / additional footing in the edge areas:</td><td>y/n*</td></tr><tr><td>Type of floor covering:</td><td>.....</td></tr></table> <p>Furnish and install</p>	Producer:	Knauf Integral	Type:	F191 GIFAfloor LBS 25/28/32/38*	Size of the panels:	1200x600mm t&g / 600x600mm t & g	Thickness / density:mm / 1500kg/m ³	Working load:N acc. EN 13213	Building material class:	A1 acc. EN 13501-1	Structural module of the supports:mm	Trimmers / additional footing in the edge areas:	y/n*	Type of floor covering:m ² €€				
Producer:	Knauf Integral																									
Type:	F191 GIFAfloor LBS 25/28/32/38*																									
Size of the panels:	1200x600mm t&g / 600x600mm t & g																									
Thickness / density:mm / 1500kg/m ³																									
Working load:N acc. EN 13213																									
Building material class:	A1 acc. EN 13501-1																									
Structural module of the supports:mm																									
Trimmers / additional footing in the edge areas:	y/n*																									
Type of floor covering:																									
.....	<p>Floor system/ramp system Knauf Integral GIFAfloor LBSplus F192 double-layer or equivalent, supported by built in situ accurately levelled linear bearing structure made by wood, iron beams or metal profiles also trapezodial sheet metal, consists of Knauf Integral support insulation stripes fixed on the supporting structure and the first layer GIFAfloor FHB panels put as a floating system on them. Panels' connection of the first layer by glued tongue and groove system with staggered joints to get big plates. Position the front edge joints of the first layer in the middle of the area of the supporting structures preferably to raise the load bearing capacity of the system.</p> <p>The GIFAfloor LEP panels of the second layer are laid turned 90°, with shifted joints glued holohedral and on the rabbet to the first layer.</p> <p>They are fixed immediately after positioning by air compression/impulse nailing.</p> <p>Alternative: Small ramps could be fixed to prefabricated, free-standing GIFatec 1500 frames.</p> <p>Technical demands:</p> <table><tr><td>Producer:</td><td>Knauf Integral</td></tr><tr><td>Type:</td><td>F192 GIFAfloor LBSplus 25+13; 25+18; 28+13; 28+18; 32+13; 32+18; 38+18*</td></tr><tr><td>Size of the panels of 1st layer::</td><td>1200x600mm t&g / 600x600mm t&g</td></tr><tr><td>Thickness / density:</td><td>....mm / 1500kg/m³</td></tr><tr><td>Size of the panels of 2nd layer::</td><td>1200x600mm re</td></tr><tr><td>Thickness / density:</td><td>....mm / 1500kg/m³</td></tr><tr><td>Working load:</td><td>.....N acc. EN 13213</td></tr><tr><td>Building material class:</td><td>A1 acc. EN 13501-1</td></tr><tr><td>Structural module of the supports:</td><td>.....mm</td></tr><tr><td>Trimmers / additional footing in the edge areas:</td><td>y/n*</td></tr><tr><td>Type of floor covering:</td><td>.....</td></tr></table> <p>Furnish and install</p>	Producer:	Knauf Integral	Type:	F192 GIFAfloor LBSplus 25+13; 25+18; 28+13; 28+18; 32+13; 32+18; 38+18*	Size of the panels of 1st layer::	1200x600mm t&g / 600x600mm t&g	Thickness / density:mm / 1500kg/m ³	Size of the panels of 2nd layer::	1200x600mm re	Thickness / density:mm / 1500kg/m ³	Working load:N acc. EN 13213	Building material class:	A1 acc. EN 13501-1	Structural module of the supports:mm	Trimmers / additional footing in the edge areas:	y/n*	Type of floor covering:m ² €€
Producer:	Knauf Integral																									
Type:	F192 GIFAfloor LBSplus 25+13; 25+18; 28+13; 28+18; 32+13; 32+18; 38+18*																									
Size of the panels of 1st layer::	1200x600mm t&g / 600x600mm t&g																									
Thickness / density:mm / 1500kg/m ³																									
Size of the panels of 2nd layer::	1200x600mm re																									
Thickness / density:mm / 1500kg/m ³																									
Working load:N acc. EN 13213																									
Building material class:	A1 acc. EN 13501-1																									
Structural module of the supports:mm																									
Trimmers / additional footing in the edge areas:	y/n*																									
Type of floor covering:																									

* cancel non-applicable items

t&g = tongue and groove re = rabbet edges

F191 GIFAfloor LBS / F192 GIFAfloor LBSplus

Specifications



Pos.	Description	Quantity	Unit price	Total price
.....	<p>Stair system Knauf Integral GIFAfloor LBS F191/GIFAfloor LBSplus F192* or equivalent, supported by built in situ accurately levelled linear bearing structure made by GIFAfloor 1500, wood, iron beams or metal profiles also trapezoidal sheet metal, consists of Knauf Integral support insulation stripes fixed on the supporting structure and one layer GIFAfloor FHB panels put as tread and prefabricated GIFAtec 1500 as risers on them or consists of steel supports as bearing parts. Alternative: frames made of GIFAtec 1500 with GIFAfloor FHB treads and GIFAtec 1500 risers glued on it. Panels' connection by glued tongue and groove system with staggered joints. Fixing of the risers could also be done e.g. with GIFAtec 1500 stripes as bearing pads.</p> <p>Only for F192: The GIFAfloor LEP panels of the second layer are laid tuned 90°, with shifted joints glued holohedral and on the rabbet to the first layer. They are fixed immediately after positioning by air compression / impulse nailing.</p> <p>Technical demands:</p> <p>Producer: Knauf Integral Type: GIFAfloor LBS F191 25/28/32/38* GIFAfloor LBSplus F192 25+13; 25+18; 28+13; 28+18; 32+13; 32+18; 38+18</p> <p>Standardized size of the panels: 1200x600mm t&g (re) / 600x600mm t&g Thickness / density:mm (+.....mm) / 1500kg/m³ Working load:N acc. EN 13213 Building material class: A1 acc. EN 13501-1 Type of floor covering:</p> <p>Furnish and installm² €€</p>			
.....	<p>Extra charge</p> <p>Installation of Knauf Integral edge insulation stripes / Knauf Integral foam insulation stripe* to sepearate the GIFAfloor from surrounding building parts.</p> <p>Furnish and installm €€</p>			
.....	<p>Extra charge</p> <p>Installation of construction / separation / expansion / control* joints including the required additional supporting parts, footings or trimmers.</p> <p>Furnish and installm €€</p>			
.....	<p>Extra charge</p> <p>Making round / rectangular* cut-outs of the GIFAfloor with a maximum size 305mm diameter / edge length* including the required additional supporting parts, footings or trimmers.</p> <p>Furnish and installStk €€</p>			
.....	<p>Extra charge</p> <p>Making round / rectangular* cut-outs of the GIFAtec risers with a maximum size 305mm diameter / edge length* suitable for e.g. mechanical services (not included, to be installed by special contractors).</p> <p>Furnish and installStk €€</p>			
* cancel non-applicable items		t&g = tongue and groove re = rabett edges		

Construction

Knauf Integral GIFAfloor panels are made of Knauf Integral GIFAtec 1500 gypsum fibre material in standardized thicknesses of 25, 28, 32 or 38mm. The size of the panels is 1200x600mm with tongue and groove edges to be stuck with Knauf Integral Nut-/ Feder- Klebstoff (glue for tongue and groove).

The GIFAfloor panels are laid floating on a suitable load bearing structure.

GIFAtec 1500 large-sized panels for special forms, frames and risers are produced in the size of 2560x1260mm. They are available in different thickness on request (see also: technical information sheet TI GIFAtec).

The system is suitable for floor heating and cooling systems.

In the cavity all mechanical services could be installed.

Drywalls could be mounted at any place on the GIFAfloor LBS systems while observing the load limits.

Grounding

The supporting structure has to take at least the ultimate loads of the GIFAfloor system. The structure has to be levelled exactly to be a flat evenly level. The deflection should be $\leq l/500$ for maximum working load.

If steel supports or frames of GIFAtec1500 material are used the raw floor has to be swept and vacuum cleaned thoroughly and to be primed with e.g. Knauf Estrichgrund F 431. Herefor the ground must be dry and solid and free of separating agents like e.g. bitumen, oil or colours.

If the GIFAtec 1500 frames are fixed to the GIFAfloor it's not obligatory to prime the raw floor.

Control joints of the structure of the building have to be placed at the same position of the GIFAfloor.

Installing

Put edge insulation stripes or foam insulation stripes self-adhesive at the connecting building parts.

All edge areas of the GIFAfloor have to be supported by additional footing or trimmers to reach it's full load-bearing capacity.

Fix the support insulation stripe on the bearing profiles. The GIFAfloor could be fixed to the GIFAtec1500 frame construction if this is free-standing on a load bearing ground.

Cut at least both tongues of the first panel, put it onto the prepared structure and press against the edge insulation stripes.

Cutting of the GIFAfloor panels with e.g. circular saw with a diamond-tipped saw blade and dust exhaustion system or with e.g. a pendulum jig-saw / assembly band saw with a HM-tipped saw blade.

Cut the tongue of the second and the following panels of the first row.

Put Nut- / Feder- Klebstoff (glue for tongue and groove) into the groove of the located panel and onto the tongue of the panel to be laid (see page 6). Put the panels together butt jointed immediately in true alignment.

Second and the following rows of panels to be installed in a staggered position (minimum: one third of the panel's length).

Glue coming out of the butt joint shows that the quantity of the glue is sufficient and could be scraped off e.g. by using a sharp-edged spatula next day.

The edge insulation stripes for the gap behind the last row of GIFAfloor panels have to be insert into the gap at last.

Don't walk on the installed GIFAfloor for c. 12 hours.

The floor system is receptive to the full working load after c. 24 hours (standard time of the glue is fully set).

Treatment of the surface and floor finishing

Control joints, expansion joints, transition joints and connection joints of the GIFAfloor have to be planned and must be adopted to the floor finishing.

GIFAfloor resists the castors of chairs without supplementary treatment.

Prime with Knauf Estrichgrund F431 or with the primer prescribed of the used adhesive system.

Fitted carpet without putty, or if necessary jointing with Knauf Uniflott. Thin elastic floor coverings (e.g. PVC, Linoleum) only with full area mastic compound (self levelling) Knauf Nivellierspachtel 415, minimum thickness 2mm, after being dry to be primed.

Ceramic tiles and natural stone to be fixed with flexible tile adhesives preferably on double-layer systems F192. The prescribed installation guides of the manufacturer of the glue system especially the minimum thickness of the glue for the chosen tile size must be observed. Porcelain stone-ware to be fixed by buttering and floating method, herefor put the tiles into the glue sideways while pressing it down.

Fleece or woven prescribed by the manufacturer of the glueing system has to be installed according the installation instructions.

If the allowed deflections of GIFAfloor by expected loads are bigger than the possible deflection of the floor covering, additional steps to reduce those deflections have to be planned. For further limitation of these deflections use thicker panels

and/or additional supporting and/or a second layer of panels.

Protect the GIFAfloor against water e.g. in bathrooms by using a liquid sealant system (e.g. Knauf Flächendicht / Flächendichtband).

Lay parquet flooring as a floating system or thickness of the parquet limited to $\leq 2/3$ of the thickness of the GIFAfloor panels. The installation guides of the manufacturer of the parquet and of the glueing system for the chosen type of parquet flooring have to be considered.

Fluid floor coverings like e.g. epoxy resin floors have to be elastified and, depending on the manufacturer, water vapour permeable.

Test the bond strength of the floor finish / glueing system (if necessary by usage of a specimen).

F192 GIFAfloor LBSplus

Construction and installation



Construction

Knauf Integral GIFAfloor FHB panels are made of Knauf Integral GIFAtec 1500 gypsum fibre material in standardized thicknesses of 25, 28, 32 or 38mm. The size of the panels is 1200x600mm with tongue and groove edges to be stuck with Knauf Integral Nut- / Feder- Klebstoff (glue for tongue and groove).

The second layer of the F192 system consists of panels in 13 or 18mm thickness with rebate joints is lain to reduce deflection, as an installation area for e.g. heating pipes or to rise the load bearing capacity or for fire protection reasons. The second layer is glued holohedral to the first layer and nailed immediately after been positioned.

The GIFAfloor panels are laid floating on a suitable load bearing structure. The system is suitable for floor heating and cooling systems.

In the cavity all mechanical services could be installed.

Drywalls could be mounted at any place on the GIFAfloor LBSplus systems while observing the load limits.

Grounding

The supporting structure has to take at least the ultimate loads of the GIFAfloor system. The structure has to be nivelled exactly to be a flat evenly level. The deflection should be $\leq 1/500$ for maximum working load.

If steel supports or frames of GIFAtec1500 material are used the raw floor has to be swept and vacuum cleaned thoroughly and to be primed with e.g. Knauf Estrichgrund F 431.

The ground must be dry and solid and free of separating agents like e.g. bitumen, oil or colours. Control joints of the structure of the building have to be placed at the same position of the GIFAfloor.

Installation

Put edge insulation stripes or foam insulation stripes self-adhesive at the connecting building parts.

All edge areas of the GIFAfloor have to be supported by additional footing or trimmers to reach it's full load-bearing capacity.

Fix the support insulation stripe on the bearing profiles. The GIFAfloor could be fixed to the GIFAtec1500 frame construction if this is free-standing on a load bearing ground.

Cut at least both tongues of the first panel, put it onto the prepared structure and press against the edge insulation stripes.

Cutting of the GIFAfloor panels with e.g. circular saw with a diamond-tipped saw blade and dust exhaustion system or with e.g. a pendulum jig-saw / assembly band saw with a HM-tipped saw blade.

Cut the tongue of the second and the following panels of the first row.

Put Nut-/ Feder- Klebstoff (glue for tongue and groove) into the groove of the located panel and onto the tongue of the panel to be laid (see page 6). Put the panels together butt jointed immediately in true alignment.

Second and the following rows of panels to be installed in a staggered position (minimum: one third of the panel's length).

The second layer consists of GIFAfloor LEP panels is installed 90° turned with staggered joints and is glued holohedral to the first layer with Knauf Integral Flächenklebstoff (glue for the 2nd layer) and nailed immediately after been positioned. Glue coming out of the butt joint shows that the quantity of the glue is sufficient and could be scraped off e.g. by using a sharp-edged spatula next day.

The edge insulation stripes for the gap behind the last row of GIFAfloor panels have to be insert into the gap at last.

Don't walk on the installed GIFAfloor for c. 12 hours. The floor system is receptive to the full working load after c. 24 hours (standard time of the glue is fully set).

Treatment of the surface and floor finishing

Control joints, expansion joints, transition joints and connection joints of the GIFAfloor have to be planned and must be adopted to the floor finishing.

GIFAfloor resists the castors of chairs without supplementary treatment.

Prime with Knauf Estrichgrund F431 or with the primer prescribed of the used adhesive system.

Fitted carpet without putty, or if necessary jointing with Knauf Uniflott. Thin elastic floor coverings (e.g. PVC, Linoleum) only with full area mastic compound (self levelling) Knauf Nivellierspachtel 415, minimum thickness 2mm, after being dry to be primed.

Ceramic tiles and natural stone to be fixed with flexible tile adhesives. The prescribed installation guides of the manufacturer of the glue system especially the minimum thickness of the glue for the choosen tile size must be observed. Porcelain stoneware to be fixed by buttering and floating method, herefor put the tiles into the glue sideways while pressing it down.

Fleece or woven prescribed by the manufacturer of the glueing system has to be installed according the installation instructions.

If the allowed deflections of GIFAfloor by expected loads are bigger than the possible deflection of the floor covering, additional steps to reduce those deflections have to be planned. For further limitation of these deflections use thicker panels

and/or additional supporting.

Protect the GIFAfloor against water e.g. in bathrooms by using a liquid sealant system (e.g. Knauf Flächendicht / Flächendichtband).

Lay parquet flooring as a floating system or thickness of the parquet limited to $\leq 2/3$ of the thickness of the GIFAfloor panels. The installation guides of the manufacturer of the parquet and of the glueing system for the choosen type of parquet flooring have to be considered.

Fluid floor coverings like e.g. epoxy resin floors have to be elastified and, depending on the manufacturer, water vapour permeable.

Test the bond strength of the floor finish / glueing system (if necessary by usage of a specimen).

Knauf Direct

Technical Advisory Service:

▶ Phone: +49 9001 31-1000 *

▶ Fax: +49 1805 31-4000 **

▶ www.knauf-integral.de

Knauf Integral KG Am Bahnhof 16, 74589 Satteldorf

* A rate of 0.39 EUR per minute will be charged for calls from within the German landline network. Callers whose phone numbers are not registered in the address database of Knauf Gips KG, i.e. private builders or non-patrons, will be charged a rate of 1.69 EUR per minute. Calls from mobile phones will be charged 1.48 EUR per minute.
** 0.14 EUR /Min.

All technical changes reserved. Only the current printed instructions are valid. Our warranty is expressly limited to our products in flawless condition. All application quantities and delivery amounts are based on empirical data that are not easily transferable to other deviating areas. The stated information represents current state-of-the-art Knauf technology. The entire state of approved engineering rules, appropriate standards, guidelines, and rules of craftsmanship are not included herewith. These and all application instructions have to be adhered to separately by the installer. All rights reserved. All amendments, reprints and photocopies, including those of excerpts, require the express permission of Knauf Integral KG, Am Bahnhof 16, 74589 Satteldorf.

