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Designation: gdrtxn04a-00
Last updated: 8/2/23
Source: Holzforschung Austria
Editor: HFA, SP

Intermediate floor - gdrtxn04a-00

intermediate floor, timber frame construction, directly, dry, with filling, other surface

Performance rating

Fire protection performance	**REI**	30

with planking 19 mm; maximum span = 5 m; maximum load $E_{d,fi}$ = 4,5 kN/m² (without floor construction, with ceiling beam 80/220)
Classified by HFA

Germany

F30

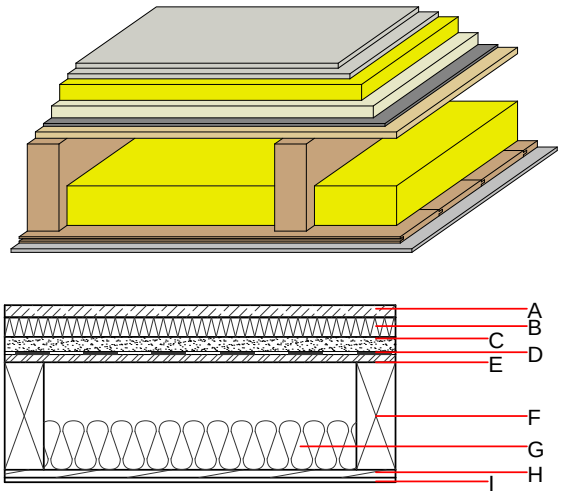
Load $E_{d,fi}$ according to the German certification document

Corresponding proof: DIN 4102-4:2016-05, Tabelle 10.12, Zeile 1

Thermal performance	**U**	
	Diffusion	suitable
Acoustic performance	**R_w (C_i;C_{tr})**	57(-6;-13) dB
	$L_{n,w}$ (C_I)	65(3)

Assessed by Müller-BBM

Mass per unit area	**m**	118.60 kg/m²



Register of building materials used for this application, cross-section (from outside to inside, dimensions in mm)

	Thickness	Building material	Thermal performance				Reaction to fire
			λ	μ min – max	ρ	c	EN
A	25.0	dry screed	0.210	8	900	1.050	A1
B	40.0		0.040	1	180	1.030	A1
C	30.0	fill (m' ca. 45 kg/m²)	0.700	1	1800	1.000	A1
D	0.2	trickling protection					E
E	16.0	OSB	0.130	200	600	1.700	D
F	220.0	construction timber (80/..; e=625)	0.120	50	450	1.600	D
G	100.0	mineral wool [040; 30; ≥1000°C]	0.040	1	30	1.030	A1
H	16.0	spruce wood tongeue and groove planking	0.120	50	450	1.600	D
I	9.5	gypsum plaster board type A	0.250	4 - 10	680	1.050	A2

Sustainability rating (per m²)

Database ecoinvent

$OI3_{Kon}$	28.6

Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials	**kg**	31.250
Biogenic carbon in kg CO_2-e.	**kg CO_2**	46.460
Energy use of Primary Energy	**MJ**	688.570
Share of renewable PE	**%**	23.89

Calculated by TUM

Details of sustainability rating

Database ecoinvent

Lifecycle (Phases)	GWP [kg CO_2-e.]	AP [kg SO_2-e.]	EP [kg PO_4-e.]	ODP [kg R11-e.]	POCP [kg Ethen-e.]	
A1 - A3		0.142	0.048	1,93E-6	0.050	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	108.502	530.931	639.434	397.600	16.350	413.950

Database GaBi (ÖKOBAUDAT)

Lifecycle (Phases)	GWP [kg CO_2-e.]	AP [kg SO_2-e.]	EP [kg PO_4-e.]	ODP [kg R11-e.]	POCP [kg Ethen-e.]	
A1 - A3		0.124	0.019	9,81E-7	0.021	
C1 - C4		0.011	0.004	7,22E-8	0.001	
A1 - C4		0.136	0.024	1,06E-6	0.022	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	161.281	546.908	710.116	489.520	45.976	535.633
C1 - C4	2.929	-540.317	-537.389	29.460	-6.888	22.572
A1 - C4	164.530	6.850	173.306	524.045	39.131	563.311