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Designation: gdrnxa05a-11
Last updated: 8/2/23
Source: Holzforschung Austria
Editor: HFA, PLB

Intermediate floor - gdrnxa05a-11

intermediate floor, timber frame construction, suspended, wet, without filling, other surface

Performance rating

Fire protection performance — **REI** — 30

maximum span = 5 m; maximum load $E_{d,fi}$ = 2,62 kN/m² (without floor construction and 12mm OSB; with ceiling beam 60/200)
Classified by HFA
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Germany

F30

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

Corresponding proof: DIN 4102-4:2016-05, Tabelle 10.11, Zeile 1

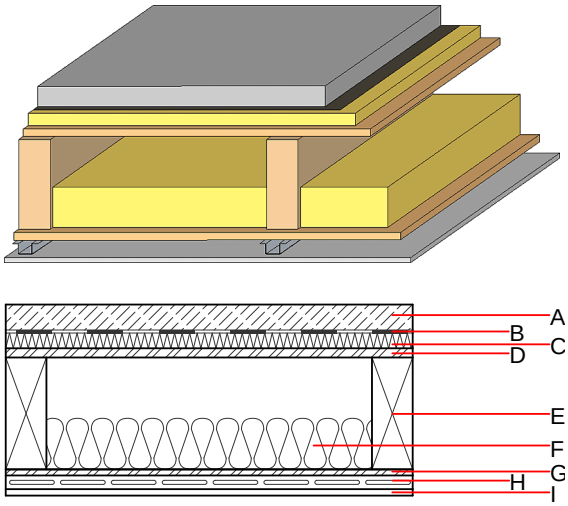
Thermal performance — **U**
Diffusion — suitable

Acoustic performance — **R_w ($C;C_{tr}$)** — 59(-1;-7) dB
$L_{n,w}$ (C_I) — 60(0)

Assessed by Müller-BBM

Mass per unit area — **m** — 158.00 kg/m²

Calculation based on gypsum plaster board type DF



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	50.0	anhydrite screed	0.700	10	2200	1.300	A1
B		plastic separation layer	0.200	100000	1400	1.400	E
C	30.0	impact sound absorbing subflooring MW-T	0.035	1	68	1.030	A1
D	18.0	OSB	0.130	200	600	1.700	D
E	240.0	construction timber (80/..; e=625)	0.120	50	450	1.600	D
F	100.0	mineral wool [040; 30; ≥1000°C]	0.040	1	30	1.030	A1
G	12.0	OSB	0.130	200	600	1.700	D
H	27.0	resilient channel					
I	12.5	gypsum plaster board type DF or	0.250	10	800	1.050	A2
I	12.5	gypsum fibre board	0.320	21	1000	1.100	A2

Sustainability rating (per m²)

Database ecoinvent

$OI3_{Kon}$ — 41.4

Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials	**kg**	33.140
Biogenic carbon in kg CO_2-e.	**kg CO_2**	49.920
Energy use of Primary Energy	**MJ**	703.900
Share of renewable PE	**%**	21.80

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		0.175	0.078	2,63E-6	0.041	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	125.655	544.594	670.249	570.728	25.504	596.233

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		0.147	0.021	8,57E-7	0.030	
C1 - C4		0.009	0.003	6,01E-8	0.001	
A1 - C4		0.160	0.026	9,25E-7	0.030	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	152.010	578.943	732.183	535.120	31.390	566.658
C1 - C4	1.032	-572.502	-570.331	9.451	-12.800	12.250
A1 - C4	153.426	6.701	162.978	550.476	18.642	593.006