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Designation: gdrnxa07b-13
Last updated: 8/2/23
Source: Holzforschung Austria
Editor: HFA, SP

Intermediate floor - gdrnxa07b-13

intermediate floor, timber frame construction, suspended, wet, with filling, other surface

Performance rating

Fire protection performance — **REI** — 60/$K_2$60

REI60: maximum span = 5 m; maximum load $E_{d,fi}$ = 3,66 kN/m² (without floor construction; with ceiling beam 80/200)
Classified by HFA
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Germany

REI60 K260

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

Corresponding proof: manufacturer-specific

Thermal performance — **U**

Diffusion — suitable

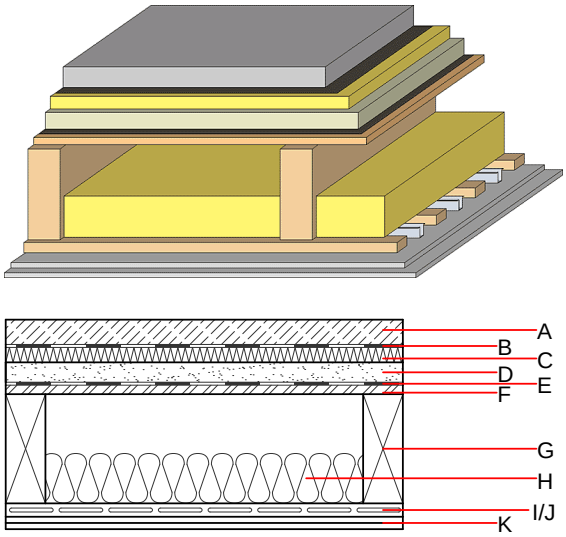
Calculated by HFA

Acoustic performance — R_w ($C;C_{tr}$) — 70(-1;-6) dB
$L_{n,w}$ (C_I) — 41(1)

Assessed by Müller-BBM

Mass per unit area — **m** — 232.50 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	cement screed or anhydrite screed	1.330	50 - 100	2000	1.080	A1
B		plastic separation layer	0.200	100000	1400	1.400	E
C	30.0	impact sound absorbing subflooring MW-T [s'=10 MN/m³]	0.035	1	68	1.030	A1
D	40.0	fill loose	0.700	1	1800	1.000	A1
E		trickling protection					E
F	18.0	OSB	0.130	200	600	1.700	D
G	220.0	construction timber (80/..; e=625)	0.120	50	450	1.600	D
H	100.0	mineral wool [040; 30; ≥1000°C]	0.040	1	30	1.030	A1
I		spruce wood cladding with spacing of cladding boards(24/100); a=400	0.120	50	450	1.600	D
J	27.0	resilient channel placed between cladding with spacing	0.156				
K	36.0	gypsum plaster board type DF (2x...) or	0.250	10	800	1.050	A2
K	36.0	gypsum fibre board (2x...)	0.320	21	1000	1.100	A2

Sustainability rating (per m²)

Database ecoinvent

$OI3_{Kon}$ — 44.2

Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials	**kg**	32.390
Biogenic carbon in kg CO_2-e.	**kg CO_2**	48.080
Energy use of Primary Energy	**MJ**	952.910
Share of renewable PE	**%**	26.09

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	2,98E-6	0.040	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	111.066	455.553	566.618	607.714	20.654	628.368

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		0.146	0.024	7,93E-7	0.028	
C1 - C4		0.018	0.004	1,06E-7	0.002	
A1 - C4		0.171	0.030	9,21E-7	0.029	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	244.230	708.240	953.900	651.140	65.900	717.170
C1 - C4	3.230	-697.180	-692.810	37.130	-23.150	29.570
A1 - C4	248.620	11.580	263.250	704.290	42.900	771.060