

Intermediate floor - gdrnxa05b-11

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

Performance rating

Fire protection performance REI 60

maximum span = 5 m; maximum load $E_{d,fi}$ = 3,66 kN/m² (without floor construction and 12mm OSB; with ceiling beam 80/200)

Classified by HFA

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Germany

F60

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

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

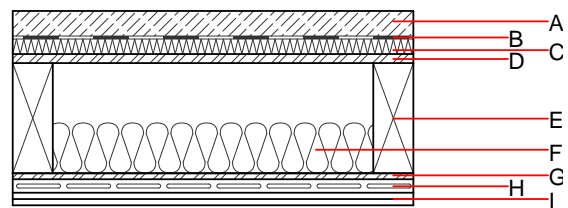
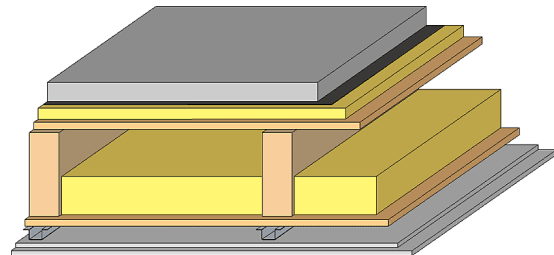
Thermal performance U Diffusion suitable

Acoustic performance R_w (C;C_{tr}) 58(-1;-7) dB
 $L_{n,w}$ (C_i) 60(0)

Assessed by Müller-BBM

Mass per unit area m 168.00 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 EN
			λ	μ min – max	ρ	c	
A	50.0	anhydrite screed or cement 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	25.0	gypsum plaster board type DF (2x12,5 mm) or	0.250	10	800	1.050	A2
I	25.0	gypsum fibre board (2x12,5 mm)	0.320	21	1000	1.100	A2

Sustainability rating (per m²)

Database ecoinvent

O13_{kon} 43.8

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	746.560
Share of renewable PE	%	21.22

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		0.180	0.080	2,92E-6	0.042	
Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	127.940	544.594	672.533	611.010	25.504	636.514

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		0.151	0.022	8,67E-7	0.030	
C1 - C4		0.010	0.004	8,06E-8	0.001	
A1 - C4		0.166	0.027	9,63E-7	0.031	
Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	156.603	584.117	741.950	565.057	32.332	597.537
C1 - C4	1.062	-572.502	-570.301	11.942	-12.800	14.741
A1 - C4	158.429	12.134	173.414	588.133	19.636	631.657