

Intermediate floor - gdrnxa05b-12

intermediate floor, timber frame construction, suspended, wet, without filling, Gipsplatte

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 10.12, Zeile 4

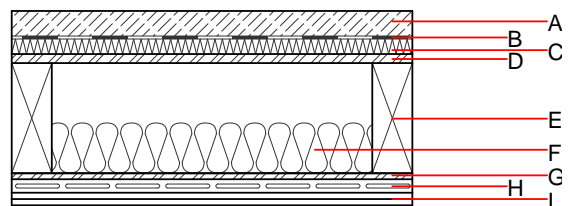
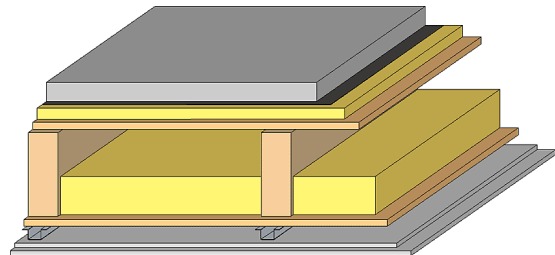
Thermal performance U Diffusion suitable

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 172.30 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	22.0	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	Cellulose fibre [040; 50]	0.040	1	50	2.000	E
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

IO_3 _{Kon} 40.4

Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials kg 41.210
Biogenic carbon in kg CO₂-e. kg CO₂ 60.730
Energy use of Primary Energy MJ 755.050
Share of renewable PE % 22.28

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		0.169	0.079	3,00E-6	0.031	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	137.973	627.123	765.096	601.595	28.395	629.990

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		0.138	0.021	7,76E-7	0.032	
C1 - C4		0.011	0.006	9,02E-8	0.001	
A1 - C4		0.155	0.028	8,81E-7	0.033	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	166.316	697.113	864.678	562.673	29.740	592.561
C1 - C4	1.161	-613.987	-611.688	13.508	-14.486	14.622
A1 - C4	168.237	83.644	254.752	586.812	15.358	626.059