

Intermediate floor - gdrnxa07b-12

intermediate floor, timber frame construction, suspended, wet, with 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; with ceiling beam 80/200)

Classified by HFA

Classified by HFA

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

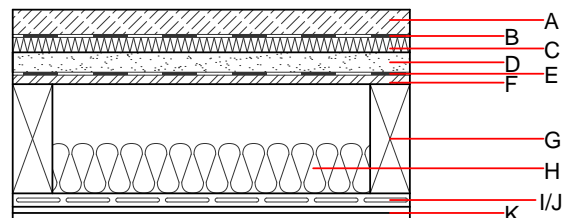
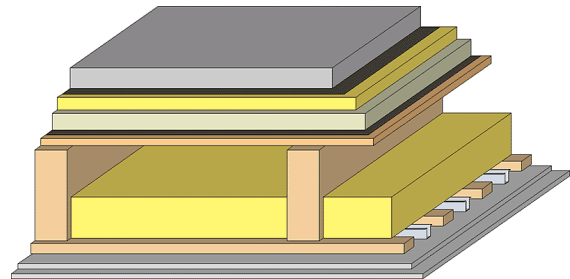
Calculated by HFA

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 227.60 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	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	0.035	1	68	1.030	A1
D	40.0	fill loose	0.700	1	1800	1.000	A1
E		trickling protection					E
F	22.0	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	Wood fibre insulation [039; 45]	0.039	1 - 2	45	2.100	E
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	25.0	gypsum plaster board type DF (2x...) or	0.250	10	800	1.050	A2
K	25.0	gypsum fibre board (2x...)	0.320	21	1000	1.100	A2

Sustainability rating (per m²)

Database ecoinvent

Ol3_{Kon} 39.9

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	915.170
Share of renewable PE	%	26.79

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		0.160	0.076	2,93E-6	0.029	
Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	122.677	566.129	688.806	591.718	30.299	622.017

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		0.143	0.024	7,86E-7	0.027	
C1 - C4		0.017	0.004	8,48E-8	0.002	
A1 - C4		0.166	0.029	8,85E-7	0.029	
Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	241.188	708.244	950.858	624.826	64.928	689.890
C1 - C4	3.203	-697.178	-692.836	34.558	-23.154	27.004
A1 - C4	245.150	11.584	259.784	670.015	41.878	735.769