

Intermediate floor - gdrnxa10b-04

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, with ceiling beam 80/200)
 Classified by HFA

Germany

F60

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

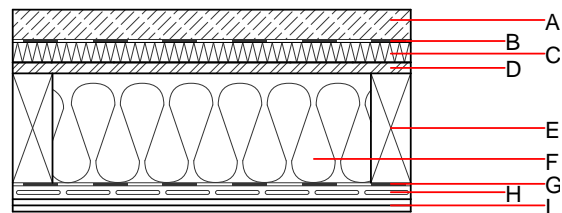
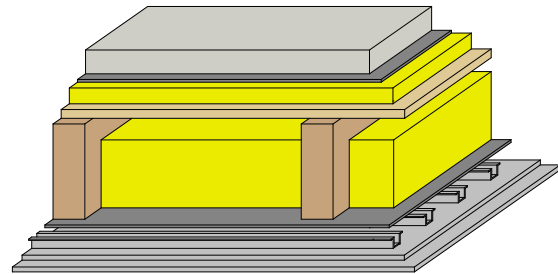
Corresponding proof: DIN 4102-4:2016-05, Tabelle 10.12, Zeile 4

Thermal performance U
 Diffusion

Acoustic performance R_w (C;C_{tr}) 73(-1;-6) dB
 $L_{n,w}$ (C_i) 54(2)

Assessed by Müller-BBM

Mass per unit area m 182.90 kg/m²



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	60.0	anhydrite screed or cement screed	0.700	10	2200	1.300	A1
B	0.2	plastic separation layer	0.200	100000	1400	1.400	E
C	40.0	impact sound absorbing subflooring MW [$s' = 16 \text{ MN/m}^2$]	0.035	1		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	200.0	mineral wool [040; 11; <1000°C]	0.040	1	11	1.030	A1
G	0.2	trickling protection					E
H	27.0	resilient channel	0.156				
I	25.0	gypsum plaster board type DF (2x...mm)	0.250	10	800	1.050	A2

Sustainability rating (per m²)

Database ecoinvent

OI3_{Kon} 46.3

Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials kg 24.490
Biogenic carbon in kg CO₂-e. kg CO₂ 36.880
Energy use of Primary Energy MJ 733.480
Share of renewable PE % 18.76

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		0.187	0.081	2,82E-6	0.047	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	115.382	466.453	581.835	613.916	23.545	637.460

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		0.176	0.025	9,09E-7	0.026	
C1 - C4		0.012	0.005	7,29E-8	0.002	
A1 - C4		0.194	0.032	9,98E-7	0.027	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	135.981	435.483	572.381	572.108	35.407	607.626
C1 - C4	0.884	-423.099	-420.849	12.004	-9.389	21.335
A1 - C4	137.632	12.902	153.398	595.845	26.122	650.565