

Intermediate floor - gdrnxa10b-02

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

Performance rating

Fire protection performance REI 60

maximum span = 5 m; maximum load $E_{d,fi} = 3,66 \text{ kN/m}^2$ (without floor construction, with ceiling beam 80/200)
 Classified by HFA

Germany

F60

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

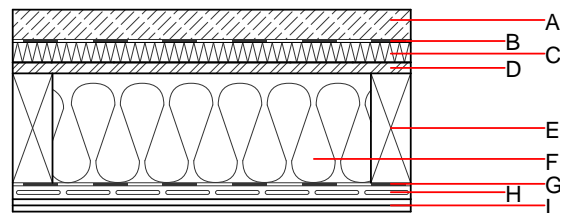
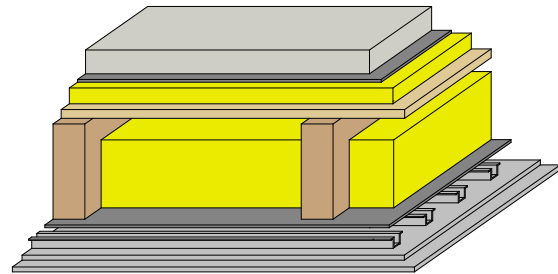
Corresponding proof: DIN 4102-4:2016-05, Tabelle 10.12, Zeile 4

Thermal performance U Diffusion

Acoustic performance $R_w (C; C_{tr})$ 73(-1;-6) dB
 $L_{n,w} (C_i)$ 51(2)

Assessed by Müller-BBM

Mass per unit area m 186.20 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 [$s' = 7 \text{ MN/m}^2$]	0.033	1	30	0.030	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	Wood fibre insulation [039; 45]	0.039	1 - 2	45	2.100	E
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

$OI3_{Kon}$ 48.2

Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials kg 34.440
Biogenic carbon in kg CO₂-e. kg CO₂ 51.130
Energy use of Primary Energy MJ 1147.230
Share of renewable PE % 29.31

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		0.188	0.091	3,46E-6	0.033	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	131.066	609.464	740.531	702.433	37.054	739.487

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		0.181	0.031	7,87E-7	0.035	
C1 - C4		0.011	0.003	7,32E-8	0.001	
A1 - C4		0.198	0.036	8,75E-7	0.036	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	333.518	891.583	1226.019	776.451	58.530	835.092
C1 - C4	1.944	-880.272	-876.962	23.864	-41.386	1.198
A1 - C4	336.222	11.829	350.916	811.004	17.248	856.851