

Intermediate floor - gdrnxa07b-04

intermediate floor, timber frame construction, suspended, wet, with filling, Gipsplatte

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 IBS
 Classified by HFA

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 0.26 $\text{W}/(\text{m}^2\text{K})$ suitable

Calculated by HFA

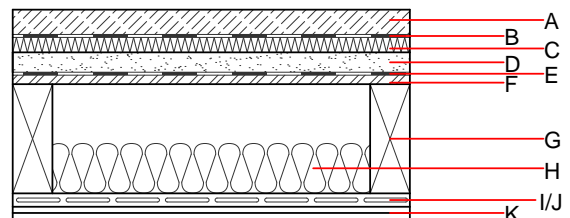
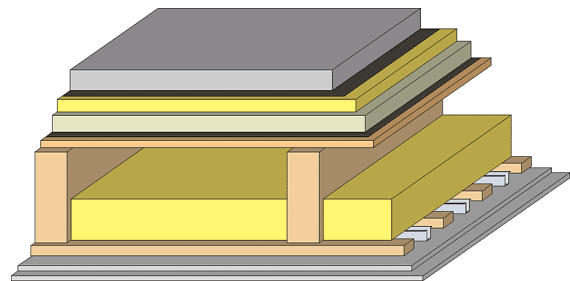
Acoustic performance $R_w (C; C_{tr})$ 70(-1;-6) dB
 $L_{n,w} (C_i)$ 41(1)

Assessed by TGM

Assessed by Müller-BBM

Mass per unit area m 223.70 kg/m^2

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 [$s' = 10 \text{ MN}/\text{m}^3$]	0.035	1	68	1.030	A1
D	40.0	fill loose	0.700	1	1800	1.000	A1
E		trickling protection					E
F	18.0	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	mineral wool [040; 30; $\geq 1000^\circ\text{C}$]	0.040	1	30	1.030	A1
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...)	0.250	10	800	1.050	A2
K	25.0	gypsum fibre board (2x...)	0.320	21	1000	1.100	A2

Sustainability rating (per m^2)

Database ecoinvent

O13_{Kon} 42.1

Calculated by HFA

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		0.171	0.076	2,74E-6	0.039	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	109.056	455.553	564.608	572.267	20.654	592.920

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		0.140	0.021	8,45E-7	0.023	
C1 - C4		0.017	0.005	8,47E-8	0.002	
A1 - C4		0.163	0.027	9,45E-7	0.024	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	145.971	488.396	635.794	526.329	53.782	580.247
C1 - C4	2.692	-476.814	-472.983	28.841	-7.731	36.710
A1 - C4	149.427	12.101	164.577	566.305	46.156	636.336