

Intermediate floor - gdrnxa07b-09

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 IBS

Classified by HFA

Thermal performance U Diffusion 0.27 W/(m²K) suitable

Calculated by HFA

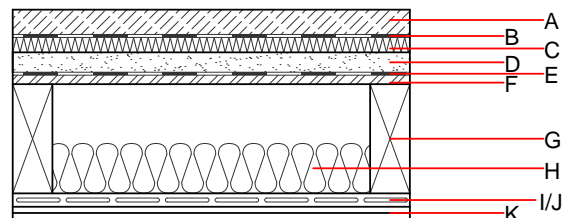
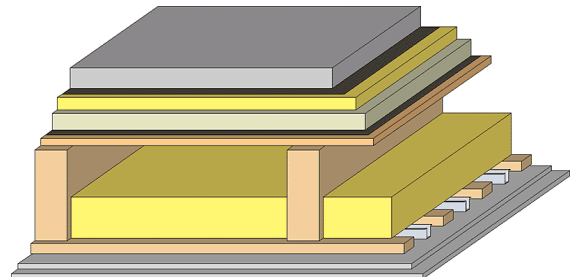
Acoustic performance R_w (C;C_{tr}) 65(-2;-7) dB
 $L_{n,w}$ (C_i) 50(1)

EPS-W with a dynamic stiffness of $s' \leq 40 \text{ MN/m}^3$.

Assessed by TGM

Mass per unit area m 222.80 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	Polystyrene EPS-W [$s' \geq 26 \text{ MN/m}^3$]	0.041	20 - 50	15	1.450	E
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; ≥ 16 ; $< 1000^\circ\text{C}$]	0.040	1	16	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...) 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

013_{kon} 34.5

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		0.133	0.063	2,39E-6	0.029	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	105.642	455.553	561.195	502.310	36.854	539.164