

Intermediate floor - gdrnxa04a-09

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

Performance rating

Fire protection performance REI 30

maximum span = 5 m; maximum load $E_{d,fi} = 3,66 \text{ kN/m}^2$
Classified by HFA

Thermal performance U Diffusion 0.28 $\text{W}/(\text{m}^2\text{K})$
suitable

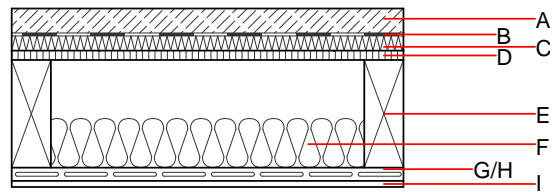
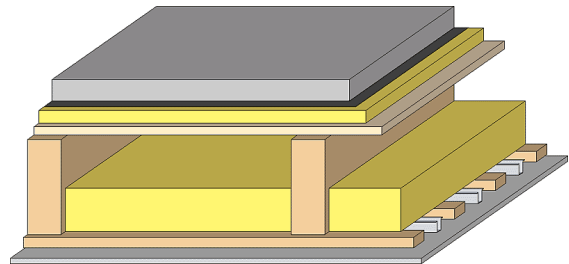
Calculated by HFA

Acoustic performance $R_w (C; C_{tr})$ 63(-3;-8) dB
 $L_{n,w} (C_i)$ 60(-1)

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

Mass per unit area m 142.40 kg/m^2

Calculation based on GF



Note: $e=625$;

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	$\mu \text{ min} - \text{max}$	ρ	c	
A	50.0	anhydrite screed or cement screed	0.700	10	2200	1.300	A1
B		plastic separation layer	0.200	100000	1400	1.400	E
C	30.0	Polystyrene EPS-W [0,041]	0.041	20 - 50	15	1.450	E
D	19.0	particleboard	0.130	50 - 100	700	1.700	D
E	220.0	construction timber (80/...; $e=*$)	0.120	50	450	1.600	D
F	100.0	mineral wool [040; ≥ 16 ; $< 1000^\circ\text{C}$]	0.040	1	16	1.030	A1
G	24.0	spruce wood cladding with spacing of cladding boards(24/100); $a=400$	0.120	50	450	1.600	D
H	27.0	resilient channel (placed between open formwork)	0.156				
I	12.5	gypsum plaster board type DF or	0.250	10	800	1.050	A2
I	12.5	gypsum fibre board	0.320	21	1000	1.100	A2

Sustainability rating (per m^2)

Database ecoinvent

OL3_{Kon} 32.9

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		0.124	0.061	2,00E-6	0.030	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	74.507	473.735	548.242	493.631	49.237	542.868