

## Intermediate floor - gdrnxa08b-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  $E_{d,fi} = 3,66 \text{ kN/m}^2$   
Classified by HFA

**Thermal performance** U 0.27 W/(m<sup>2</sup>K)  
Diffusion suitable

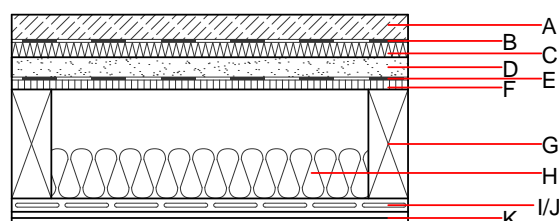
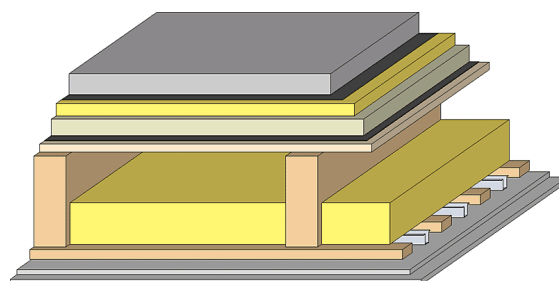
energy storage capacity per unit area above: 104,5 kg/m<sup>2</sup>  
Calculated by HFA

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

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

**Mass per unit area** m 224.40 kg/m<sup>2</sup>

Calculation based on gypsum plaster board type DF



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
			$\lambda$	$\mu \text{ min} - \text{max}$	$\rho$	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	0.700	1	1800	1.000	A1
E		trickling protection					E
F	19.0	particleboard	0.130	50 - 100	700	1.700	D
G	220.0	construction timber (80/...; e=*)	0.120	50	450	1.600	D
H	100.0	mineral wool [040; $\geq 16$ ; $< 1000^\circ\text{C}$ ]	0.040	1	16	1.030	A1
I	24.0	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 (2x12,5 mm) or	0.250	10	800	1.050	A2
K	25.0	gypsum fibre board (2x12,5 mm)	0.320	21	1000	1.100	A2

### Sustainability rating (per m<sup>2</sup>)

#### Database ecoinvent

013<sub>kon</sub> 36.5

Calculated by HFA

## Details of sustainability rating

### Database ecoinvent

Lifecycle (Phases)	GWP [kg CO <sub>2</sub> -e.]	AP [kg SO <sub>2</sub> -e.]	EP [kg PO <sub>4</sub> -e.]	ODP [kg R11-e.]	POCP [kg Ethen-e.]	
A1 - A3		0.134	0.064	2,33E-6	0.031	
Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	77.097	473.735	550.832	545.296	53.059	598.356