

## Intermediate floor - gdrnxa07a-09

intermediate floor, timber frame construction, suspended, wet, with filling, other surface

### Performance rating

**Fire protection performance** REI 30

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

**Thermal performance** U Diffusion 0.27  $\text{W}/(\text{m}^2\text{K})$   
 suitable

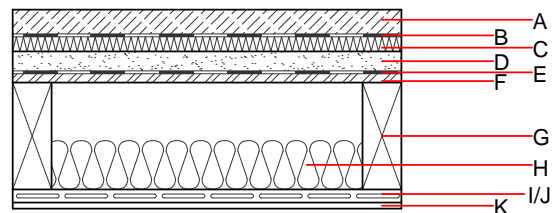
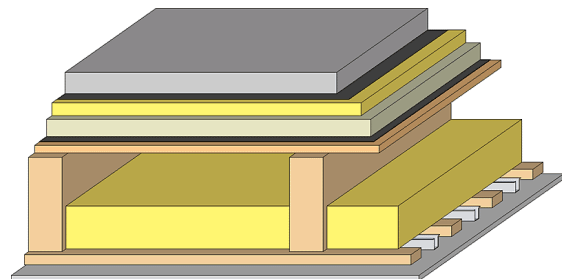
Calculated by HFA

**Acoustic performance**  $R_w (C; C_{tr})$  65(-3;-8) dB  
 $L_{n,w} (C_i)$  50(2)

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

**Mass per unit area** m 212.80  $\text{kg}/\text{m}^2$

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
			$\lambda$	$\mu$ min - 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 [ $s' \geq 26 \text{ MN}/\text{m}^3$ ]	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; $\geq 16$ ; $< 1000^\circ\text{C}$ ]	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	12.5	gypsum plaster board type DF or	0.250	10	800	1.050	A2
K	12.5	gypsum fibre board	0.320	21	1000	1.100	A2

### Sustainability rating (per $\text{m}^2$ )

#### Database ecoinvent

$O13_{kon}$  32.1

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		0.128	0.061	2,11E-6	0.028	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	103.358	455.553	558.911	462.028	36.854	498.882