

## Flat roof - fdmobi01 a-01

flat roof, solid wood construction, not ventilated, with dry lining, suspended, other surface

### Performance rating

**Fire protection performance** REI 60

maximum span = 5 m; maximum load  $E_{d,fi}$  = 0,6 kN/m<sup>2</sup>  
Classified by HFA

**Thermal performance** U 0.09 W/(m<sup>2</sup>K)  
Diffusion suitable

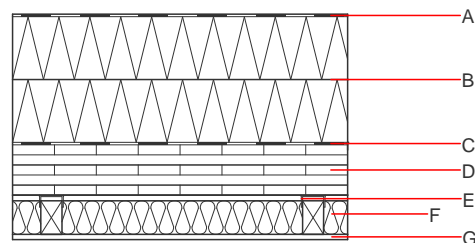
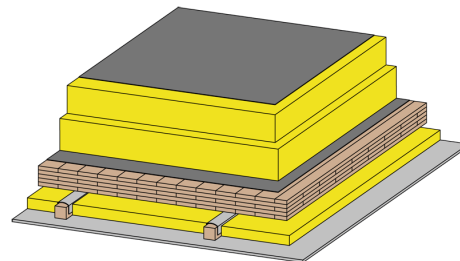
Calculated by HFA

**Acoustic performance**  $R_w$  (C;C<sub>tr</sub>) 48 dB  
 $L_{n,w}$  (C<sub>i</sub>)

Assessed by HFA

**Mass per unit area** m 117.60 kg/m<sup>2</sup>

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		Plastic roofing membrane					E
B	300.0	mineral wool [040; 130; $\geq 1000^\circ\text{C}$ ] ; pressure-resistant	0.040	1	130	1.030	A1
C		sealing sheet					
D	125.0	cross laminated timber $\geq 125,0$ ; at least 5-layers, top layer at least 27,5 mm	0.130	50	500	1.600	D
E	80.0	spruce wood ; battens on resilient clips (50/80; e=625)	0.120	50	450	1.600	D
F	80.0	mineral wool [040; 18]	0.040	1	18	1.030	A1
G	19.0	3-ply solid wood panel	0.110	50	400	2.500	D

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

#### Database ecoinvent

013<sub>Kon</sub> 150.0

calculated with gypsum plaster fire protection board (GKF/DF); this data includes 3-, 5-, and 7-ply cross laminated timber elements;  
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		0.684	0.213	8,31E-6	0.264	
Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	85.074	1061.294	1146.368	1563.815	201.425	1765.240