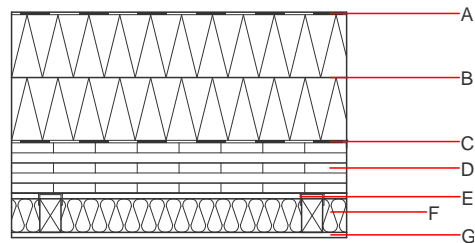
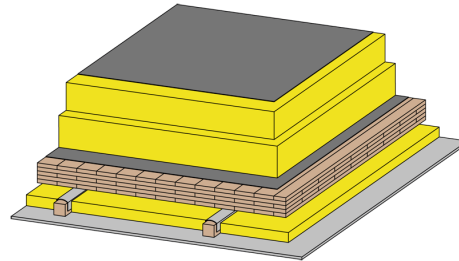


## Flat roof - fdmobi01a-03

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

### Performance rating

<b>Fire protection performance</b>	REI	60
maximum span = 5 m; maximum load $E_{d,fi} = 0,6 \text{ kN/m}^2$ Classified by HFA		
<b>Thermal performance</b>	U Diffusion	0.10 $\text{W}/(\text{m}^2\text{K})$ suitable
Calculated by HFA		
<b>Acoustic performance</b>	$R_w (C;C_{tr})$ $L_{n,w} (C_i)$	50 dB
Assessed by HFA		
<b>Mass per unit area</b>	m	126.60 $\text{kg}/\text{m}^2$
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		Plastic roofing membrane					E
B	300.0	wood-fibre insulation board [0,045; R=160] ; pressure-resistant	0.045	5 - 7	160	2.100	E
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 $\text{m}^2$ )

#### Database ecoinvent

$OI3_{Kon}$  94.0

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		0.407	0.176	9,21E-6	0.093	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	154.320	1946.915	2101.235	1445.323	285.082	1730.405