

## Flat roof - fdmko01-02

flat roof, solid wood construction, not ventilated, without dry lining, without lining, wooden surface

### Performance rating

Fire protection performance REI 30

Classified by HFA

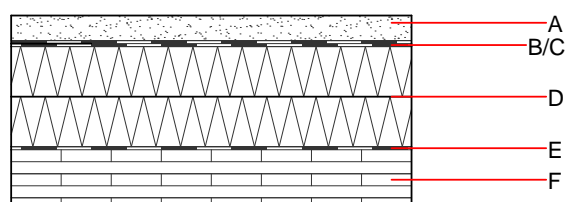
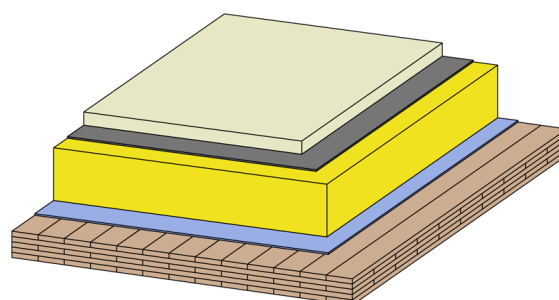
#### Germany

Load  $E_{d,f}$  according to the German certification document

Thermal performance U Diffusion 0.21 W/(m<sup>2</sup>K) suitable

Acoustic performance  $R_w$  ( $C$ ;  $C_{tr}$ )  $L_{n,w}$  ( $C_i$ ) 43(-2;-7) dB

Mass per unit area m 88.50 kg/m<sup>2</sup>



### 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		no additional structure gravel					
B		no additional structure					
C		sealing sheet $s_d \geq 100$ m					
D	200.0	mineral wool [040; 130; $\geq 1000^\circ\text{C}$ ] (2*100)	0.040	1	130	1.030	A1
E		sealing sheet e.g. bitumen					
F	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

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

#### Database ecoinvent

Ol3<sub>Kon</sub> 101.3

Calculated by HFA

#### Database GaBi (ÖKOBAUDAT)

Built-in renewable materials	kg	61.180
Biogenic carbon in kg CO <sub>2</sub> -e.	kg CO <sub>2</sub>	88.060
Energy use of Primary Energy	MJ	1194.970
Share of renewable PE	%	24.32

## 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		0.457	0.143	6,47E-6	0.175	
Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	56.829	855.000	911.829	1093.756	198.054	1291.810

### Database GaBi (ÖKOBAUDAT)

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		0.296	0.044	4,15E-6	0.028	
C1 - C4		0.004	0.008	1,57E-7	0.001	
A1 - C4		0.300	0.052	4,31E-6	0.029	
Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	289.721	1040.824	1328.045	883.615	140.852	1023.769
C1 - C4	0.946	-1036.250	-1035.304	19.526	0.000	19.526
A1 - C4	290.676	4.574	292.750	904.294	140.852	1044.448