

Flat roof - fdmko01-03

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

Performance rating

Fire protection performance REI 30

Classified by HFA

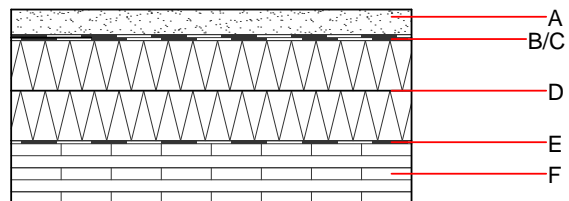
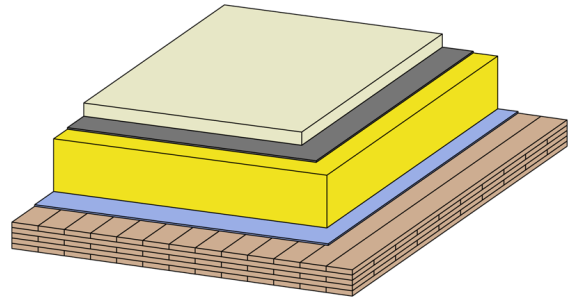
Germany

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

Thermal performance U Diffusion 0.21 W/(m²K) suitable

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

Mass per unit area m 94.50 kg/m²



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
			λ	μ min – max	ρ	c	
A		no additional structure gravel					
B		no additional structure					
C		sealing sheet $s_d \geq 100m$					
D	200.0	wood-fibre insulation board [0,045; R=160] (2*100)	0.045	5 - 7	160	2.100	E
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 m²)

Database ecoinvent

O13_{kon} 69.2

Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials	kg	107.180
Biogenic carbon in kg CO ₂ -e.	kg CO ₂	153.940
Energy use of Primary Energy	MJ	1380.020
Share of renewable PE	%	35.46

Details of sustainability rating

Database ecoinvent

Lifecycle (Phases)	GWP [kg CO ₂ -e.]	AP [kg SO ₂ -e.]	EP [kg PO ₄ -e.]	ODP [kg R11-e.]	POCP [kg Ethen-e.]	
A1 - A3		0.296	0.125	7,21E-6	0.071	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	104.562	1445.414	1549.976	1057.448	253.825	1311.272

Database GaBi (ÖKOBAUDAT)

Lifecycle (Phases)	GWP [kg CO ₂ -e.]	AP [kg SO ₂ -e.]	EP [kg PO ₄ -e.]	ODP [kg R11-e.]	POCP [kg Ethen-e.]	
A1 - A3		0.147	0.030	3,29E-6	0.031	
C1 - C4		0.002	0.000	1,51E-7	0.000	
A1 - C4		0.148	0.030	3,45E-6	0.031	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	487.535	1541.674	2026.708	863.747	138.424	1001.470
C1 - C4	1.853	-1541.674	-1539.821	26.883	-35.374	-8.491
A1 - C4	489.387	-0.000	486.888	890.630	103.050	992.980