# dataholz.eu

Designation: Last updated: Source: Editor:

fdmnko01-00 8/2/23 Holzforschung Austria HFA, PLB

# Flat roof - fdmnko01-00

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

## Performance rating

Fire protection performance	REI	30						
maximum span = 5 m; maximum load $E_{d,fi}$ = 5 kN/m <sup>2</sup> ; also REI 60 without 12,5 mm gypsum plasterboards with improved properties at high temperatures (fire) or gypsum fibre board Classified by HFA								
Germany								
Load $E_{d,fi}$ according to the	German certific	ation document						
Thermal performance	U Diffusion	0.21 W∕(m <sup>2</sup> K) suitable						
Acoustic performance	R <sub>w</sub> (C;C <sub>tr</sub> ) L <sub>n,w</sub> (C <sub>l</sub> )	50(-2;-7) dB						

Mass per unit area m 178.50 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
			λ	µ min – max	ρ	с	EN
А	50.0	gravel gravel	0.700	1	1800	1.000	A1
В		separation nonwoven [sd & le; 0,2m]					
С		sealing sheet sd≥ 100m					
D	200.0	mineral wool [040; 130; ≥1000°C] (2*100)	0.040	1	130	1.030	A1
Е		sealing sheet e.g. bitumen					
F	125.0	cross laminated timber $\ge$ 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

013./	
UIJKon	

102.6 calculated with gypsum plaster fire protection board (GKF/DF); this data includes 3-, 5-, and 7-ply cross laminated timber elements; 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	LW	1283.200
Share of renewable PE	%	23.40

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## Details of sustainability rating

#### Database ecoinvent

Lifecycle	GWP	AP	EP	ODP	POCP	
(Phases)	[kg CO <sub>2</sub> -e.]	[kg SO <sub>2</sub> -e.]	[kg PO <sub>4</sub> -e.]	[kg R11-e.]	[kg Ethen-e.]	
A1 - A3		0.462	0.144	6,54E-6	0.176	
Lifecycle	PERE	PERM	PERT	PENRE	PENRM	PENRT
(Phases)	[MJ]	[M]	[LM]	[LM]	[M]	[MJ]
A1 - A3	57.169	855.000	912.169	1105.811	200.602	1306.412

### Database GaBi (ÖKOBAUDAT)

Lifecycle	GWP	AP	EP	ODP	POCP	
(Phases)	[kg CO <sub>2</sub> -e.]	[kg SO <sub>2</sub> -e.]	[kg PO <sub>4</sub> -e.]	[kg R11-e.]	[kg Ethen-e.]	
A1 - A3		0.311	0.046	4,15E-6	0.029	
C1 - C4		0.017	0.010	1,57E-7	0.002	
A1 - C4		0.328	0.056	4,31E-6	0.032	
Lifecycle	PERE	PERM	PERT	PENRE	PENRM	PENRT
(Phases)	[LM]	[M]	[LM]	[LM]	[MJ]	[M]
A1 - A3	296.192	1040.824	1334.516	934.054	167.372	1100.728
C1 - C4	4.059	-1036.250	-1032.191	47.729	0.000	47.729
A1 - C4	300.260	4.574	302.334	982.938	167.372	1149.612