

Designation: fdrhbi04a-05 Last updated: 8/2/23

Source: Holzforschung Austria

Editor: HFA, SP

# Flat roof - fdrhbi04a-05

flat roof, timber frame construction, ventilated, with dry lining, not suspended, other surface

# Performance rating

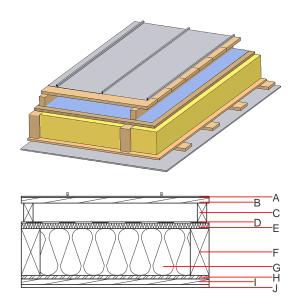
Fire protection

30

Assessed by TGM

 $\label{eq:mass_per_unit_area} \mbox{Mass per unit area} \qquad \mbox{m} \qquad \qquad 48.40 \mbox{ kg/m}^2$ 

Calculation based on gypsum plaster board type DF



Note: The design of the under-roof construction and of the counterbattens have to be specified according to the roof pitch and the national requirements.

### Register of building materials used for this application, cross-section (from outside to inside, dimensions in mm)

Thic	ckness	Building material	Thermal performance				Reaction to fire
			λ	μ min – max	ρ	С	EN
A		Plastic roofing membrane or					Е
A		sheet metal roofing			7800		A1
В	24.0	spruce wood closed cladding without spacing of cladding boards	0.120	50	450	1.600	D
С	80.0	spruce wood counter battens (ventilation)	0.120	50	450	1.600	D
D		sarking membrane sd ≤ 0,3m			1000		E
E	22.0	softboard [045; 250] - rigid underlay	0.045	5	250	2.100	E
F	200.0	construction timber (80/; e=800)	0.120	50	450	1.600	D
G	200.0	cellulose fibre [040; E]	0.040	1 - 2	55	2.000	E
Н	15.0	OSB (sealed with airtight tape)	0.130	200	600	1.700	D
I	24.0	spruce wood cladding with spacing of cladding boards(24/100); $a=400$	0.120	50	450	1.600	D
J	12.5	gypsum plaster board type DF or	0.250	10	800	1.050	A2
J	12.5	gypsum fibre board	0.320	21	1000	1.100	A2

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

Calculated by HFA

Database ecoinvent
OI3<sub>Kon</sub> 30.3



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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		0.157	0.071	2,40E-6	0.031	
Lifecycle	PERE	PERM	PERT	PENRE	PENRM	PENRT
(Phases)	[MJ]	[MJ]	[MJ]	[MJ]	[MJ]	[MJ]
A1 - A3	127.565	796.223	923.788	479.926	25.765	505.691