Flat roof - fdrhbi10a-02
flat roof, timber frame construction, ventilated, with dry lining, not suspended, other surface

Performance rating

Fire protection performance	REI	30

maximum span = 5 m; maximum load $E_{d,fi}$ = 2,62 kN/m²
Classified by HFA

Thermal performance	U	0.17 W/(m²K)
	Diffusion	suitable

Calculated by HFA

Acoustic performance	R_w (C;C_{tr})	47(-2;-6) dB
	$L_{n,w}$ (C_I)	

Assessed by TGM

Mass per unit area	m	48.60 kg/m²

Calculation based on GF
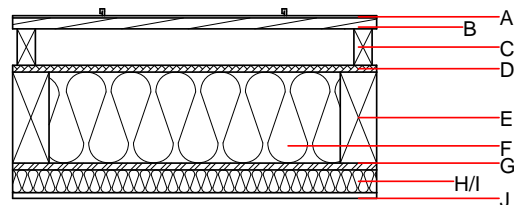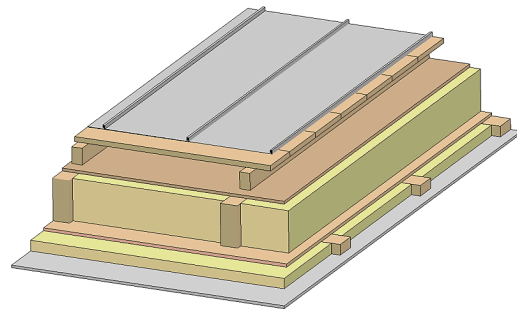
Note: The design of the under-roof construction and of the counter-battens have to be specified according to the roof pitch and the national requirements.

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

	Thickness	Building material	Thermal performance				Reaction to fire
			λ	μ min – max	ρ	c	EN
A		sheet metal roofing or			7800		A1
A		Plastic roofing membrane					E
B	24.0	spruce wood closed cladding without spacing of cladding boards	0.120	50	450	1.600	D
C	80.0	spruce wood counter battens (ventilation)	0.120	50	450	1.600	D
D		sarking membrane sd ≤ 0,3m			1000		E
D	15.0	fibreboard (MDF)	0.140	11	600	1.700	D
E	220.0	construction timber (80/..; e=800)	0.120	50	450	1.600	D
F	220.0	mineral wool [040; ≥16; <1000°C]	0.040	1	16	1.030	A1
G	15.0	OSB (sealed with airtight tape)	0.130	200	600	1.700	D
H	50.0	spruce wood cross battens (50/80;a=400)	0.120	50	450	1.600	D
I	50.0	mineral wool [040; ≥16; <1000°C]	0.040	1	16	1.030	A1
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 m²)

Database ecoinvent

OI3$_{Kon}$	40.5

Calculated by HFA

dataholz.eu

Designation: fdrhbi10a-02
Last updated: 8/2/23
Source: Holzforschung Austria
Editor: HFA, SP

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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		0.192	0.089	2,94E-6	0.035	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	136.678	801.368	938.046	610.972	35.294	646.267

dataholz.eu – Catalogue of timber building materials, components and component connections reviewed to consider thermal, acoustic, fire performance requirements and ecological drivers for timber construction released by accredited testing institutes.
These datasheets will generally be accepted as proofs of compliance by building authorities.

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