

Flat roof - fdrhbi08a-04

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 $E_{d,fi} = 3,66 \text{ kN/m}^2$ Classified by HFA		

Thermal performance	U	0.17 W/(m²K)
	Diffusion	suitable

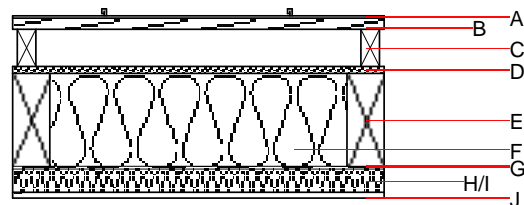
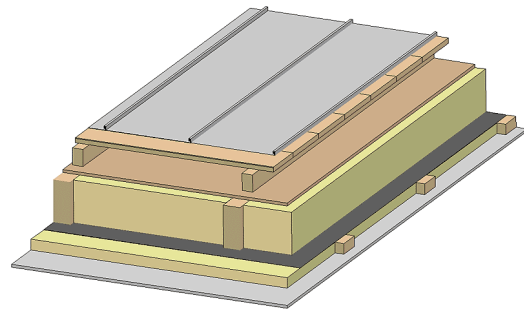
Calculated by HFA

Acoustic performance	R_w (C;C_{tr})	50(-3;-8) dB
	$L_{n,w}$ (C_i)	

Assessed by TGM

Mass per unit area	m	45.10 kg/m²
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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 EN
			λ	μ min – max	ρ	c	
A		Plastic roofing membrane or					E
A		sheet metal roofing			7800		A1
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 $s_d \leq 0,3\text{m}$			1000		E
D	15.0	fibreboard (MDF)	0.140	11	600	1.700	D
E	200.0	construction timber (80/*; e=800)	0.120	50	450	1.600	D
F	200.0	mineral wool [035; 50; <1000°C]	0.035	1	50	1.030	A1
G		vapour barrier $s_d \geq 1\text{m}$			1000		
H	50.0	spruce wood cross battens (50/80;a=400)	0.120	50	450	1.600	D
I	50.0	mineral wool [035; 50; <1000°C] or without insulation in type 01	0.035	1	50	1.030	A1
J	12.5	gypsum fibre board or	0.320	21	1000	1.100	A2
J	12.5	gypsum plaster board type DF	0.250	10	800	1.050	A2

Sustainability rating (per m²)

Database ecoinvent

013_{Kon}	64.1
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Calculated by HFA

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		0.274	0.127	4,37E-6	0.042	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	119.973	638.476	758.450	854.990	29.762	884.752