

Flat roof - fdrhbi05b-03

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

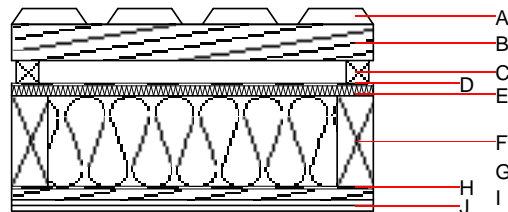
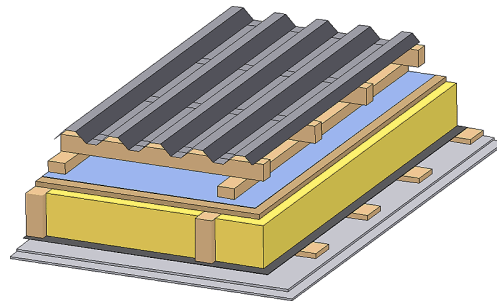
Performance rating

Fire protection performance REI 60
 maximum span = 5 m; maximum load $E_{d,fi} = 3,66 \text{ kN/m}^2$
 Classified by HFA

Thermal performance U 0.18 W/(m²K)
Diffusion suitable
 Calculated by HFA

Acoustic performance $R_w (C; C_{tr})$ 50(-2;-7) dB
 $L_{n,w} (C_i)$
 Assessed by TGM

Mass per unit area m 48.00 kg/m²
 Calculation based on gypsum plaster board type DF



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	$\mu \text{ min} - \text{max}$	ρ	c	
A		trapezoidal sheet metal roofing					A1
B	80.0	spruce wood battens (80/50)	0.120	50	450	1.600	D
C	50.0	spruce wood counter battens (ventilation)	0.120	50	450	1.600	D
D		sarking membrane $s_d \leq 0,3\text{m}$			1000		E
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	mineral wool [035; 50; <1000°C]	0.035	1	50	1.030	A1
I	24.0	spruce wood cladding with spacing of cladding boards(24/100); a=400	0.120	50	450	1.600	D
I		vapour barrier $s_d \geq 2\text{m}$			1000		
J	25.0	gypsum plaster board type DF (2x12,5 mm) or	0.250	10	800	1.050	A2
J	25.0	gypsum fibre board (2x12,5 mm)	0.320	21	1000	1.100	A2

Sustainability rating (per m²)

Database ecoinvent

013_{Kon} 94.6

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		0.368	0.177	5,59E-6	0.058	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	100.368	385.006	485.374	1167.624	19.383	1187.008