

Flat roof - fdrhbi04b-06

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 0.21 W/(m²K)
Diffusion suitable

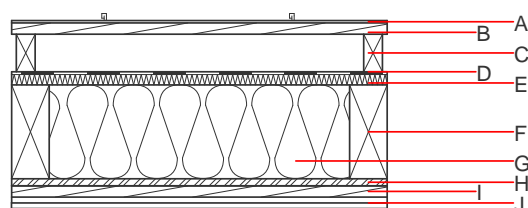
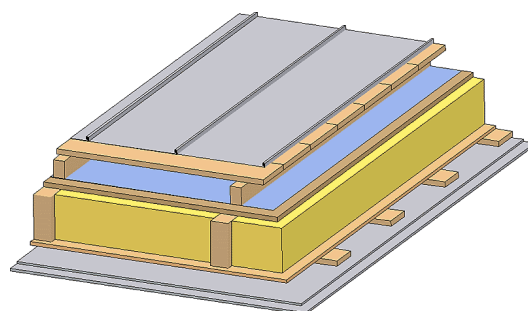
Calculated by HFA

Acoustic performance $R_w (C; C_{tr})$ 47(-3;-7) dB
 $L_{n,w} (C_i)$

Assessed by TGM

Mass per unit area m 51.40 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		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
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	sheep wool [0,041; R=26]	0.041	1	30	1.720	E
H	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	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} 33.4

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		0.149	0.070	2,96E-6	0.032	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	122.401	805.797	928.198	554.717	26.845	581.562