

Flat roof - fdrhbi01b-02

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

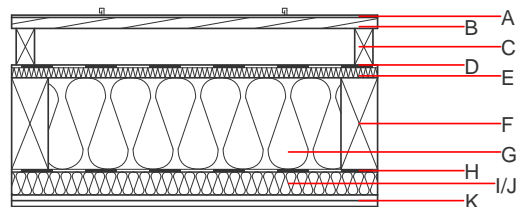
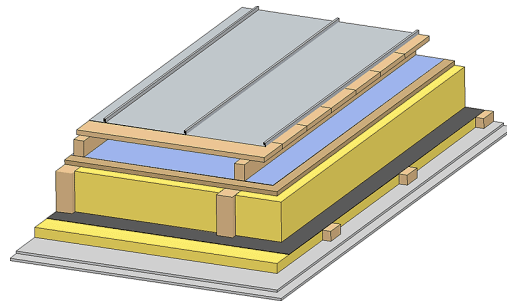
Performance rating

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	0.16 W/(m²K)
	Diffusion	suitable
Calculated by HFA		

Acoustic performance	R_w (C; C_{tr})	51 (-2; 7) dB
	$L_{n,w}$ (C_i)	
Assessed by TGM		

Mass per unit area	m	45.80 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 EN
			λ	μ min – max	ρ	c	
A		sheet metal roofing or plastic roofing membrane			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 $s_d \leq 0,3\text{m}$			1000		E
E	22.0	softboard [045; 250] - rigid underlay	0.045	5	250	2.100	E
F	220.0	construction timber (80/*; e=800)	0.120	50	450	1.600	D
G	220.0	mineral wool [040; ≥ 16 ; $< 1000^\circ\text{C}$]	0.040	1	16	1.030	A1
H		vapour barrier $s_d \geq 2\text{m}$			1000		
I	50.0	spruce wood cross battens (50/80;a=400)	0.120	50	450	1.600	D
J	50.0	mineral wool [040; ≥ 16 ; $< 1000^\circ\text{C}$] or without insulation in type 01	0.040	1	16	1.030	A1
K	25.0	gypsum fibre board (2x12,5 mm) or	0.320	21	1000	1.100	A2
K	25.0	gypsum plaster board type DF (2x12,5 mm)	0.250	10	800	1.050	A2

Sustainability rating (per m²)

Database ecoinvent

O13_{Kon} 40.6

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		0.178	0.084	3,10E-6	0.033	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	107.216	597.920	705.136	592.915	19.383	612.298