

Flat roof - fdrhbi08a-02

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

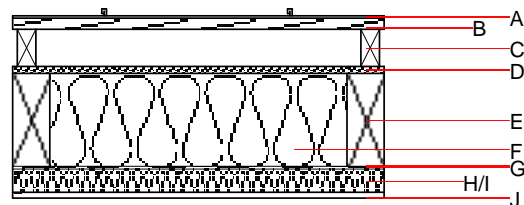
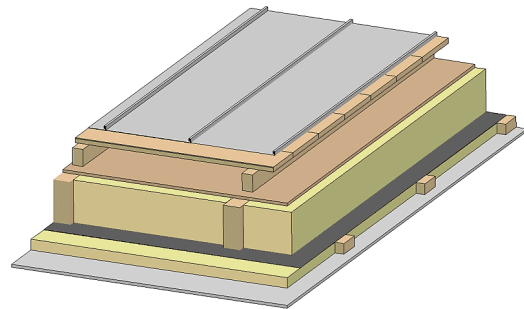
Performance rating

Fire protection performance REI 30
maximum span = 5 m; maximum load $E_{d,fi} = 3,66 \text{ kN/m}^2$
Classified by HFA

Thermal performance U 0.17 W/(m²K)
Diffusion suitable
Calculated by HFA

Acoustic performance $R_w (C; C_{tr})$ 49(-2;-7) dB
 $L_{n,w} (C_i)$
Assessed by TGM

Mass per unit area m 38.90 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	$\mu \text{ min} - \text{max}$	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
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 ; $<1000^\circ\text{C}$]	0.040	1	16	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 [040; ≥ 16 ; $<1000^\circ\text{C}$] or without insulation in type 01	0.040	1	16	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} 37.7

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		0.175	0.082	2,63E-6	0.032	
Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	108.294	654.854	763.148	550.244	29.762	580.006