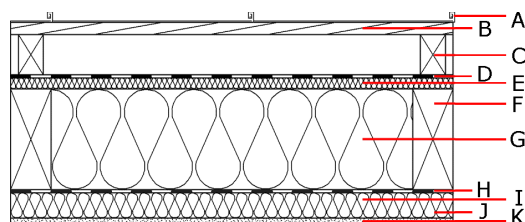
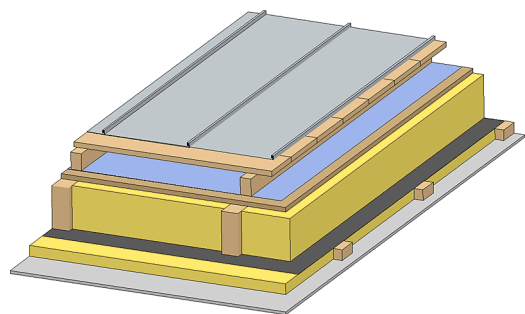


flat roof - timber frame construction, ventilated, with dry lining, not suspended



Performance rating

Fire protection performance	REI	30
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maximum span = 5 m; maximum load $E_{d,fi}$ = 3,66 kN/m²
 Classified by IBS

Thermal performance	U[W/(m ² K)]	0,17
	Diffusion	adequate
	$m_{w,B,A}$ [kg/m ²]	17,2

Calculated by HFA

Acoustic performance	R_w (C; C _{tr})	50 (-3; -8)
	$L_{n,w}$ (C _i)	-

Assessed by TGM

Sustainability*	O13 _{Kon}	-6,1
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Calculated by IBO

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 $s_d \leq 0,3m$			1000		E
E	22,0	softboard [045; 250]	0,045	5	250	2,100	E
F	200,0	finger-jointed solid construction timber (80/*; e=800)	0,120	50	450	1,600	D
G	200,0	cellulose fibre [040; E]	0,040	1 - 2	55	2,000	E
H		vapour barrier $s_d \geq 2m$			1000		
I	50,0	spruce wood cross battens (50/80;a=400)	0,120	50	450	1,600	D
J	50,0	cellulose fibre [040; E] or without insulation in type 01	0,040	1 - 2	55	2,000	E
K	12,5	gypsum fibre board or	0,320	21	1000	1,100	A2
K	12,5	gypsum plasterboards with improved properties at high temperatures (fire)	0,250	10	800	1,050	A2

*Details of sustainability rating

GWP	AP	PEI ne	PEI e	EP	POCP
[kg CO ₂ Äqv.]	[kg SO ₂ Äqv.]	[MJ]	[MJ]	[kg PO ₄ Äqv.]	[kg C ₂ H ₄ Äqv.]
-48,9	0,194	377,2	883,6	0,021	0,009

Mass per unit area

m	calculation based on
[kg/m ²]	
43,10	gypsum fibre board