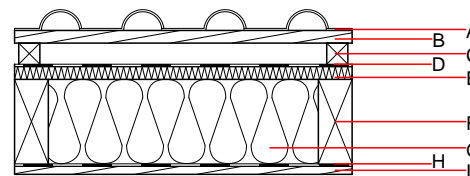
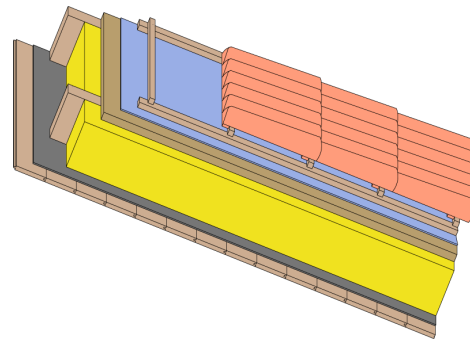


Pitched roof - sdrhzo04a-01

pitched roof, timber frame construction, ventilated, without dry lining, directly, wooden surface

Performance rating

Fire protection performance	REI	30
maximum span = 5 m; maximum load $E_{d,fi} = 4,5 \text{ kN/m}^2$ Classified by HFA		
Thermal performance	U Diffusion	0.16 $\text{W}/(\text{m}^2\text{K})$ suitable
Calculated by HFA		
Acoustic performance	$R_w (C; C_{tr})$ $L_{n,w} (C_i)$	48(-4;-10) dB
Assessed by TGM		
Mass per unit area	m	82.10 kg/m^2



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	$\mu \text{ min - max}$	ρ	c	
A	concrete roof tile or tiled roof			2100		A1
B 30.0	spruce wood battens (30/50)	0.120	50	450	1.600	D
C 50.0	spruce wood counter battens (minimum height 50 mm)	0.120	50	450	1.600	D
D	sarking membrane $s_d \leq 0,3\text{m}$			1000		E
E 35.0	softboard [045; 250] - rigid underlay	0.045	5	250	2.100	E
F 240.0	construction timber (80/..; e=800)	0.120	50	450	1.600	D
G 240.0	mineral wool [038; ≥ 33 ; $\geq 1000^\circ\text{C}$]	0.038	1	33	1.030	A1
H	vapour barrier $s_d \geq 1 \text{ m}$			1000		
I 19.0	planking profile C	0.120	50	450	1.600	

Sustainability rating (per m^2)

Database ecoinvent

$O13_{kon}$ 38.6

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		0.183	0.065	2,54E-6	0.063	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	100.312	578.749	679.061	490.266	24.418	514.684