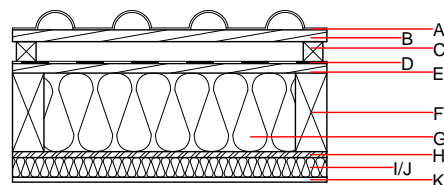
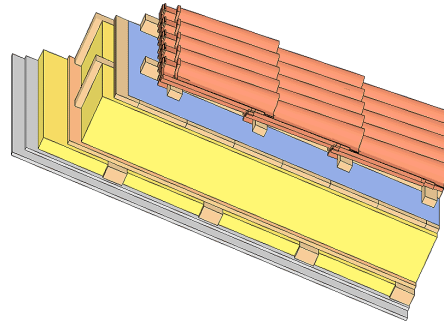


Pitched roof - sdrhzi06a-01

pitched 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 $E_{d,fi} = 2,62 \text{ kN/m}^2$ Classified by HFA		
Thermal performance	U Diffusion	0.20 $\text{W}/(\text{m}^2\text{K})$ suitable
Calculated by HFA		
Acoustic performance	$R_w (C;C_{tr})$ $L_{n,w} (C_i)$	50(-4;-10) dB
with a tiled roof $R_w = 49 \text{ dB}$ Assessed by TGM		
Mass per unit area	m	50.00 kg/m^2
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.
 J=without insulation**

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 $sd \leq 0,3\text{m}$			1000		E
E	24.0 planking spruce wood closed cladding without spacing of cladding boards	0.120	50	450	1.600	D
F	200.0 construction timber (80/...; e=800)	0.120	50	450	1.600	D
G	200.0 mineral wool [040; ≥ 16 ; $< 1000^\circ\text{C}$]	0.040	1	16	1.030	A1
H	15.0 OSB (sealed with airtight tape)	0.130	200	600	1.700	D
I	50.0 spruce wood cross battens (50/80;a=400)	0.120	50	450	1.600	D
J	air layer	0.000	1	1	1.008	
K	12.5 gypsum plaster board type DF or	0.250	10	800	1.050	A2
K	12.5 gypsum fibre board	0.320	21	1000	1.100	A2

Sustainability rating (per m^2)

Database ecoinvent

O13_{kon}	26.0
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		0.125	0.057	2,82E-6	0.027	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	123.773	671.838	795.611	441.748	17.244	458.992