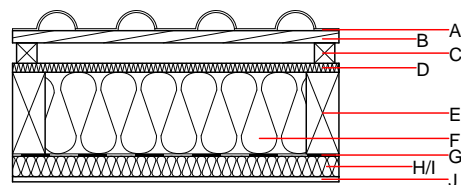
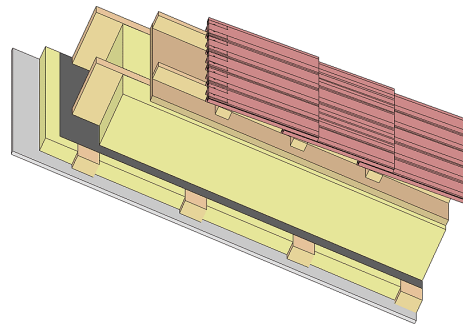


Pitched roof - sdrhzi03a-07

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 $E_{d,fi} = 3,66 \text{ kN/m}^2$ Classified by HFA		
Thermal performance	U Diffusion	0.19 $\text{W}/(\text{m}^2\text{K})$ suitable
Calculated by HFA		
Acoustic performance	R_w (C;C _{tr}) $L_{n,w}$ (C _i)	52(-5;-11) dB
with a tiled roof $R_w = 50$ (-5; -11) dB Assessed by TGM		
Mass per unit area	m	34.10 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.

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		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	22.0	softboard [045; 250] - rigid underlay	0.045	5	250	2.100	E
E	200.0	construction timber (80/...; e=800)	0.120	50	450	1.600	D
F	200.0	sheep wool [0,041; R=26]	0.041	1	30	1.720	E
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	sheep wool [0,041; R=26]	0.041	1	30	1.720	E
J	12.5	gypsum plaster board type DF or	0.250	10	800	1.050	A2
J	12.5	gypsum fibre board	0.320	21	1000	1.100	A2

Sustainability rating (per m^2)

Database ecoinvent

OI3_{kon} 21.5

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		0.084	0.038	2,63E-6	0.019	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	71.432	554.042	625.475	381.238	14.300	395.538