

Pitched roof - sdrhzo02a-05

pitched roof, timber frame construction, ventilated, without dry lining, directly, 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 0.22 $\text{W}/(\text{m}^2\text{K})$
 suitable

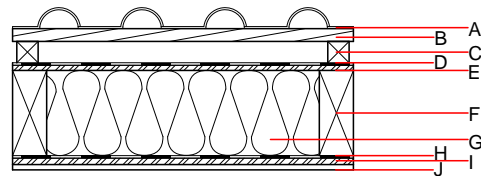
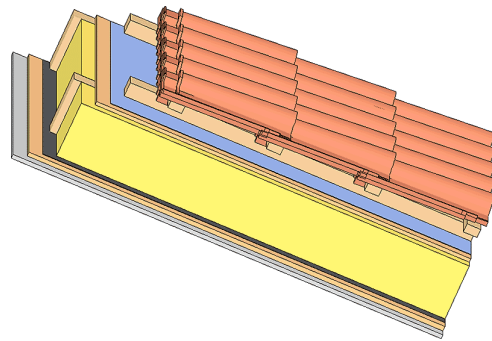
Calculated by HFA

Acoustic performance $R_w (C;C_{tr})$ 51(-2;-8) dB
 $L_{n,w} (C_i)$

with a tiled roof $R_w = 50 \text{ dB}$
 Assessed by TGM

Mass per unit area m 48.00 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.

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		sarking membrane $s_d \leq 0,3\text{m}$			1000		E
E	12.0	OSB	0.130	200	600	1.700	D
F	200.0	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 $s_d \geq 11\text{m}$			1000		
I	15.0	OSB	0.130	200	600	1.700	D
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

$OI3_{kon}$ 22.5

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		0.108	0.047	2,42E-6	0.020	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	108.258	611.546	719.803	372.698	25.917	398.615