

Pitched roof - sdrhzi07a-04

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 kN/m²
Classified by HFA

Thermal performance U 0.21 W/(m²K)
Diffusion suitable

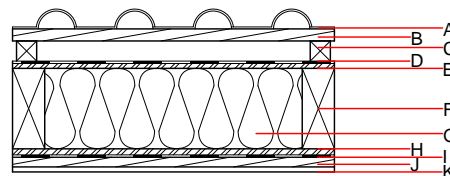
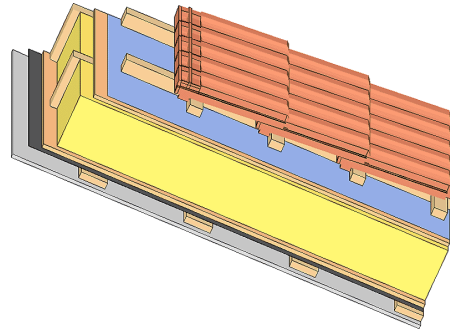
Calculated by HFA

Acoustic performance R_w (C;C_{tr}) 52(-1;-7) dB
 $L_{n,w}$ (C_i)

with a tiled roof R_w = 51 dB
Assessed by TGM

Mass per unit area m 47.00 kg/m²

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 $s_d \leq 0,3m$			1000		E
E	15.0	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	mineral wool [038; ≥ 33 ; $\geq 1000^\circ C$]	0.038	1	33	1.030	A1
H	15.0	OSB	0.130	200	600	1.700	D
I		vapour barrier $s_d \geq 11m$			1000		
J	24.0	spruce wood cladding with spacing of cladding boards(24/100); a=400	0.120	50	450	1.600	D
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 m²)

Database ecoinvent

013_{Kon} 35.6

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		0.164	0.058	2,54E-6	0.055	
Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	109.572	549.930	659.502	469.854	30.376	500.230