

Pitched roof - sdrhzi08a-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 0.20 W/(m²K)
 Diffusion suitable

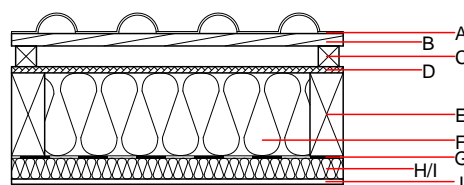
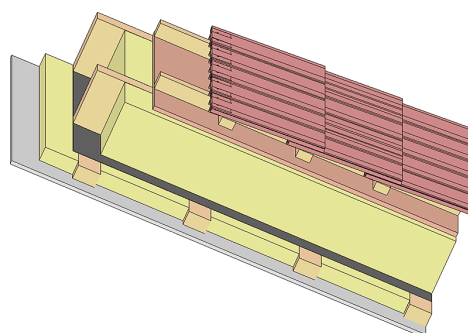
Calculated by HFA

Acoustic performance $R_w (C; C_{tr})$ 52(-4;-10) dB
 $L_{n,w} (C_i)$

with a tiled roof $R_w = 50 (-4; -9) \text{ dB}$
 Assessed by TGM

Mass per unit area m 37.60 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	$\mu \text{ min} - \text{max}$	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	15.0	fibreboard (MDF)	0.140	11	600	1.700	D
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 m²)

Database ecoinvent

013_{Kon} 23.4

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		0.090	0.039	2,46E-6	0.020	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	75.254	610.977	686.231	400.727	47.944	448.672