

Pitched roof - sdrhzi07a-02

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 0.18 W/(m²K)
Diffusion suitable

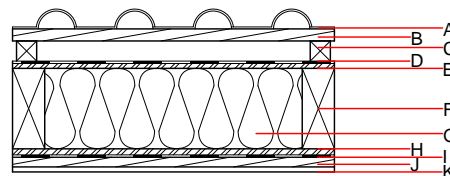
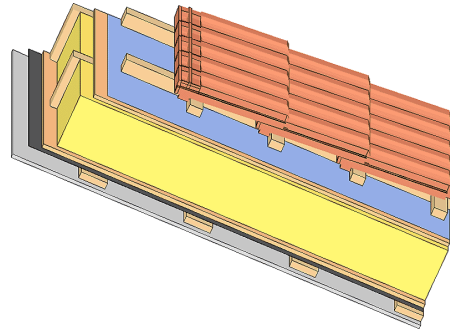
Calculated by HFA

Acoustic performance $R_w (C; C_{tr})$ 53(-1;-7) dB
 $L_{n,w} (C_i)$

with a tiled roof $R_w = 52 \text{ dB}$
Assessed by TGM

Mass per unit area m 46.50 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 | | sarking membrane $s_d \leq 0,3\text{m}$ | | | 1000 | | E |
| E | 15.0 | OSB | 0.130 | 200 | 600 | 1.700 | D |
| F | 240.0 | construction timber (80/...; e=800) | 0.120 | 50 | 450 | 1.600 | D |
| G | 240.0 | mineral wool [040; ≥ 16 ; $< 1000^\circ\text{C}$] | 0.040 | 1 | 16 | 1.030 | A1 |
| H | 15.0 | OSB | 0.130 | 200 | 600 | 1.700 | D |
| I | | vapour barrier $s_d \geq 11\text{m}$ | | | 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} 32.2

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 | | 0.139 | 0.063 | 3,08E-6 | 0.026 | |

| Lifecycle (Phases) | PERE [MJ] | PERM [MJ] | PERT [MJ] | PENRE [MJ] | PENRM [MJ] | PENRT [MJ] |
|-----------------------|--------------|--------------|--------------|---------------|---------------|---------------|
| A1 - A3 | 117.043 | 582.686 | 699.729 | 498.770 | 30.376 | 529.146 |