

Pitched roof - sdrhzi09b-03

pitched roof, timber frame construction, ventilated, with dry lining, not suspended, other surface

Performance rating

Fire protection performance REI 60

maximum span = 5 m; maximum load $E_{d,fi} = 3,66 \text{ kN/m}^2$
 Classified by HFA

Thermal performance U 0.19 W/(m²K)
 Diffusion suitable

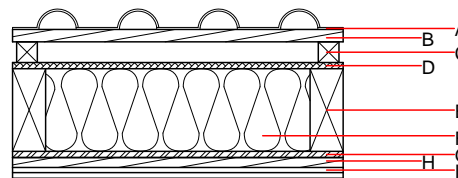
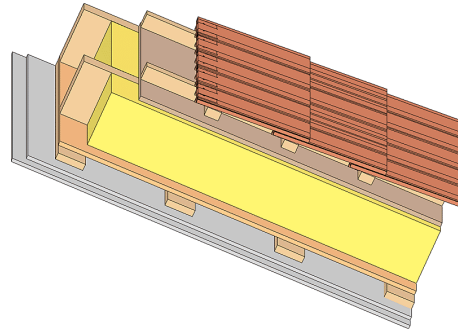
Calculated by HFA

Acoustic performance $R_w (C; C_{tr})$ 54(-2;-8) dB
 $L_{n,w} (C_i)$

with a tiled roof $R_w = 52 (-2; -8) \text{ dB}$
 Assessed by TGM

Mass per unit area m 60.80 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 | mineral wool [035; 50; <1000°C] | 0.035 | 1 | 50 | 1.030 | A1 |
| G | 15.0 | OSB (sealed with airtight tape) | 0.130 | 200 | 600 | 1.700 | D |
| H | 24.0 | spruce wood cladding with spacing of cladding boards(24/100); a=400 | 0.120 | 50 | 450 | 1.600 | D |
| I | 25.0 | gypsum plaster board type DF (2x12,5 mm) or | 0.250 | 10 | 800 | 1.050 | A2 |
| I | 25.0 | gypsum fibre board (2x12,5 mm) | 0.320 | 21 | 1000 | 1.100 | A2 |

Sustainability rating (per m²)

Database ecoinvent

013_{Kon} 53.3

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 | | 0.217 | 0.098 | 4,48E-6 | 0.033 | |
| Lifecycle (Phases) | PERE [MJ] | PERM [MJ] | PERT [MJ] | PENRE [MJ] | PENRM [MJ] | PENRT [MJ] |
| A1 - A3 | 115.073 | 589.683 | 704.755 | 756.502 | 28.891 | 785.393 |