

Pitched roof - sdrhzi03a-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 $E_{d,fi}$ = 3,66 kN/m²
Classified by HFA

Thermal performance U 0.16 W/(m²K)
Diffusion suitable

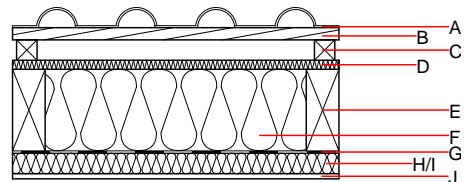
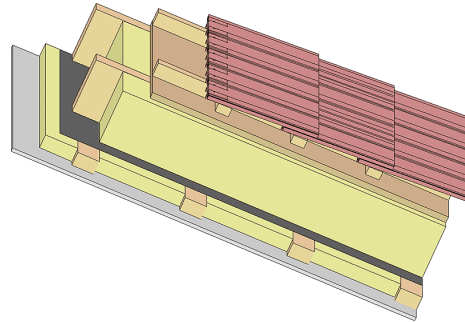
Calculated by HFA

Acoustic performance R_w (C;C_{tr}) 52(-3;-9) dB
 $L_{n,w}$ (C_i)

with a tiled roof R_w = 50 (-3; -9) dB
Assessed by TGM

Mass per unit area m 35.40 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 | 22.0 | softboard [045; 250] - rigid underlay | 0.045 | 5 | 250 | 2.100 | E |
| E | 220.0 | construction timber (80/...; e=800) | 0.120 | 50 | 450 | 1.600 | D |
| F | 220.0 | mineral wool [040; ≥16; <1000°C] | 0.040 | 1 | 16 | 1.030 | A1 |
| G | | vapour barrier sd≥ 1 m | | | 1000 | | |
| H | 50.0 | spruce wood cross battens (50/80;a=400) | 0.120 | 50 | 450 | 1.600 | D |
| I | 50.0 | mineral wool [040; ≥16; <1000°C] | 0.040 | 1 | 16 | 1.030 | A1 |
| 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} 30.1

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 | | 0.124 | 0.057 | 2,90E-6 | 0.022 | |

| Lifecycle (Phases) | PERE [MJ] | PERM [MJ] | PERT [MJ] | PENRE [MJ] | PENRM [MJ] | PENRT [MJ] |
|-----------------------|--------------|--------------|--------------|---------------|---------------|---------------|
| A1 - A3 | 79.015 | 435.369 | 514.384 | 453.302 | 12.980 | 466.282 |