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Designation: sdrhzi04b-04
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Source: Holzforschung Austria
Editor: HFA, SP

# Pitched roof - sdrhzi04b-04

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 kN/m²
Classified by HFA

| | | |
|---|---|---|
| **Thermal performance** | **U** | 0.19 W/(m²K) |
| | **Diffusion** | suitable |

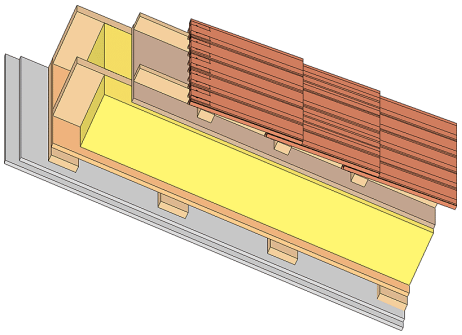
Calculated by HFA

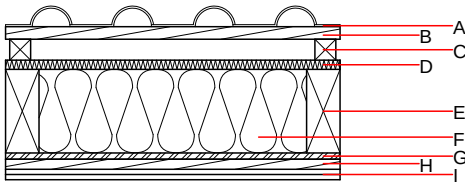
| | | |
|---|---|---|
| **Acoustic performance** | **$R_w$ ($C;C_{tr}$)** | 54(-1;-7) dB |
| | **$L_{n,w}$ ($C_I$)** | |

with a tiled roof Rw = 52 (-1; -7) dB
Assessed by TGM

| | | |
|---|---|---|
| **Mass per unit area** | **m** | 54.20 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 |
|---|---|---|---|---|---|---|---|
| | | | λ | μ min – max | ρ | c | EN |
| 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 | 200.0 | construction timber (80/..; e=800) | 0.120 | 50 | 450 | 1.600 | D |
| F | 200.0 | mineral wool [038; ≥33; ≥1000°C] | 0.038 | 1 | 33 | 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**

| | |
|---|---|
| **$OI3_{Kon}$** | 37.2 |

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 | | 0.165 | 0.059 | 2,82E-6 | 0.055 | |

| Lifecycle (Phases) | PERE [MJ] | PERM [MJ] | PERT [MJ] | PENRE [MJ] | PENRM [MJ] | PENRT [MJ] |
|---|---|---|---|---|---|---|
| A1 - A3 | 97.205 | 522.922 | 620.126 | 502.371 | 19.362 | 521.732 |