

Flat roof - fdrhbi07a-05

flat 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 0.21 W/(m²K)
Diffusion suitable

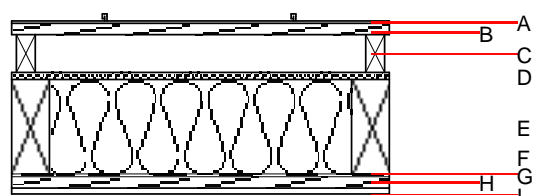
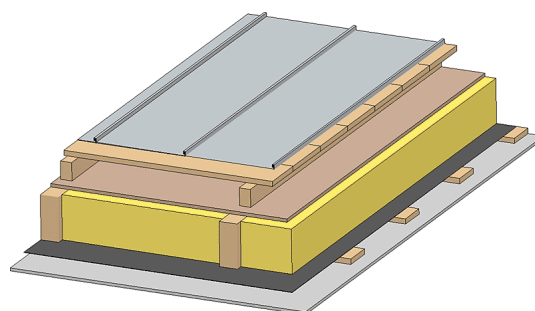
Calculated by HFA

Acoustic performance $R_w (C; C_{tr})$ 49(-3;-8) dB
 $L_{n,w} (C_i)$

Assessed by TGM

Mass per unit area m 42.00 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 | | Plastic roofing membrane or | | | | | E |
| A | | sheet metal roofing | | | 7800 | | A1 |
| B | 24.0 | spruce wood closed cladding without spacing of cladding boards | 0.120 | 50 | 450 | 1.600 | D |
| C | 80.0 | spruce wood counter battens (ventilation) | 0.120 | 50 | 450 | 1.600 | D |
| D | | sarking membrane $s_d \leq 0,3\text{m}$ | | | 1000 | | E |
| 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 | cellulose fibre [040; E] | 0.040 | 1 - 2 | 55 | 2.000 | E |
| G | | vapour barrier $s_d \geq 1\text{m}$ | | | 1000 | | |
| H | 24.0 | spruce wood cladding with spacing of cladding boards(24/100); a=400 | 0.120 | 50 | 450 | 1.600 | D |
| I | 12.5 | gypsum plaster board type DF or | 0.250 | 10 | 800 | 1.050 | A2 |
| I | 12.5 | gypsum fibre board | 0.320 | 21 | 1000 | 1.100 | A2 |

Sustainability rating (per m²)

Database ecoinvent

013_{Kon} 26.8

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 | | 0.140 | 0.064 | 1,89E-6 | 0.026 | |
| Lifecycle (Phases) | PERE [MJ] | PERM [MJ] | PERT [MJ] | PENRE [MJ] | PENRM [MJ] | PENRT [MJ] |
| A1 - A3 | 102.264 | 706.643 | 808.907 | 413.977 | 29.762 | 443.739 |