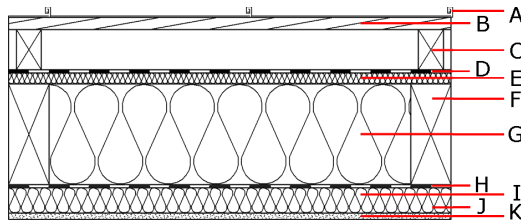
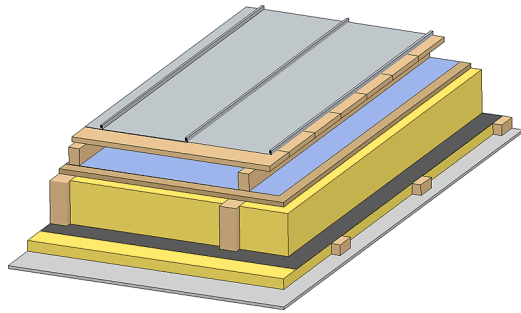


flat roof - timber frame construction, ventilated, with dry lining, not suspended



Performance rating

| | | |
|-----------------------------|-----|----|
| Fire protection performance | REI | 30 |
|-----------------------------|-----|----|

maximum span = 5 m; maximum load $E_{d,fi}$ = 3,66 kN/m²
 Classified by IBS

| | | |
|---------------------|----------------------------------|----------|
| Thermal performance | U[W/(m ² K)] | 0,17 |
| | Diffusion | adequate |
| | $m_{w,B,A}$ [kg/m ²] | 17,2 |

Calculated by HFA

| | | |
|----------------------|-----------------------------|-------------|
| Acoustic performance | R_w (C;C _{tr}) | 50 (-3; -8) |
| | $L_{n,w}$ (C _i) | - |

Assessed by TGM

| | | |
|-----------------|--------------------|------|
| Sustainability* | O13 _{Kon} | -6,1 |
|-----------------|--------------------|------|

Calculated by IBO

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 | |
| A | | sheet metal roofing or plastic roofing membrane | | | 7800 | | A1 |
| A | | Plastic roofing membrane | | | | | E |
| 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 $s_d \leq 0,3m$ | | | 1000 | | E |
| E | 22,0 | softboard [045; 250] | 0,045 | 5 | 250 | 2,100 | E |
| F | 200,0 | finger-jointed solid construction timber (80/*; e=800) | 0,120 | 50 | 450 | 1,600 | D |
| G | 200,0 | cellulose fibre [040; E] | 0,040 | 1 - 2 | 55 | 2,000 | E |
| H | | vapour barrier $s_d \geq 2m$ | | | 1000 | | |
| I | 50,0 | spruce wood cross battens (50/80;a=400) | 0,120 | 50 | 450 | 1,600 | D |
| J | 50,0 | cellulose fibre [040; E] or without insulation in type 01 | 0,040 | 1 - 2 | 55 | 2,000 | E |
| K | 12,5 | gypsum fibre board or | 0,320 | 21 | 1000 | 1,100 | A2 |
| K | 12,5 | gypsum plasterboards with improved properties at high temperatures (fire) | 0,250 | 10 | 800 | 1,050 | A2 |

*Details of sustainability rating

| GWP | AP | PEI ne | PEI e | EP | POCP |
|---------------------------|---------------------------|--------|-------|---------------------------|---|
| [kg CO ₂ Äqv.] | [kg SO ₂ Äqv.] | [MJ] | [MJ] | [kg PO ₄ Äqv.] | [kg C ₂ H ₄ Äqv.] |
| -48,9 | 0,194 | 377,2 | 883,6 | 0,021 | 0,009 |

Mass per unit area

| m | calculation based on |
|----------------------|----------------------|
| [kg/m ²] | |
| 43,10 | gypsum fibre board |