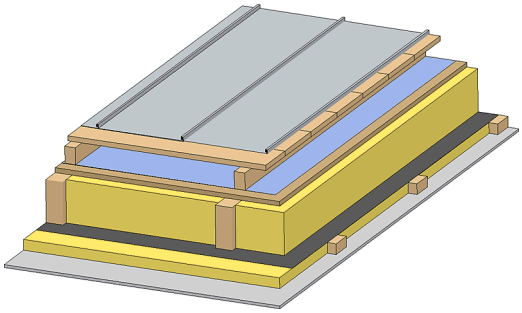
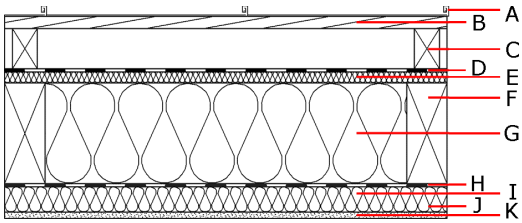
Product: fdrhbi01a-01
Last updated: 23.08.2017
Source: Holzforschung Austria
Editor: HFA, SP

# 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/(m²K)] | 0,20 |
| | Diffusion | adequate |
| | $m_{w,B,A}$[kg/m²] | 18,8 |

Calculated by HFA

| | | |
|---|---|---|
| **Acoustic performance** | $R_w$ ($C;C_{tr}$) | 48 (-3; -8) |
| | $L_{n,w}$ ($C_I$) | – |

Assessed by TGM

| | | |
|---|---|---|
| **Sustainability*** | $OI3_{Kon}$ | 1,8 |

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 | EN |
| 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 sd ≤ 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 | glass wool [0,0040; R=16] | 0,040 | 1 | 16 | 1,030 | A1 |
| H | | vapour barrier sd≥ 2m | | | 1000 | | |
| I | 50,0 | spruce wood cross battens (50/80;a=400) | 0,120 | 50 | 450 | 1,600 | D |
| J | | without insulation or without insulation in type 01 | | | | | |
| 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.] |
| -35,4 | 0,214 | 466,5 | 772,0 | 0,025 | 0,010 |

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**Mass per unit area**

| m | calculation based on |
|---|---|
| [kg/m$^2$] | |
| 33,90 | gypsum fibre board |