

External wall - awropo21b-02

external wall, timber frame construction, not ventilated, without dry lining, with rendering, other surface

Performance rating

| | | |
|---|------------------|----|
| Fire protection performance | REI from inside | 60 |
| | REI from outside | 60 |
| maximum ceiling height = 3 m; maximum load $E_{d,fi} = 32,0 \text{ kN/m}$ | | |
| Classified by HFA | | |

| | | |
|----------------------------|-----------|---------------------------|
| Thermal performance | U | 0.17 W/(m ² K) |
| | Diffusion | suitable |

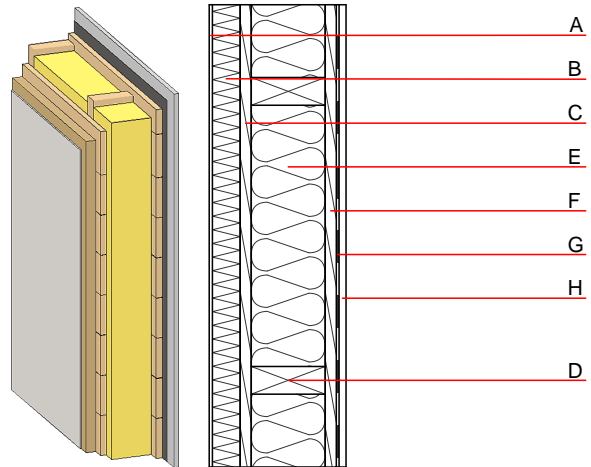
Calculated by HFA

| | | |
|-----------------------------|-------------------|--------------|
| Acoustic performance | $R_w (C; C_{tr})$ | 53(-3;-9) dB |
| | $L_{n,w} (C_i)$ | |

Assessed by MA39

| | | |
|---------------------------|---|-------------------------|
| Mass per unit area | m | 80.10 kg/m ² |
|---------------------------|---|-------------------------|

Calculation based on gypsum plaster board type DF



Note: e=625

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 | 7.0 | plaster | 1.000 | 10 - 35 | 2000 | 1.130 | A1 |
| B | 60.0 | wood-fibre insulation board WF-PT [045; 180] | 0.045 | 5 - 7 | 180 | 2.100 | E |
| C | 24.0 | planking spruce wood | 0.120 | 50 | 450 | 1.600 | D |
| D | 200.0 | construction timber (60/.,; e=*) | 0.120 | 50 | 450 | 1.600 | D |
| E | 200.0 | mineral wool [040; ≥ 16 ; $< 1000^\circ\text{C}$] | 0.040 | 1 | 16 | 1.030 | A1 |
| F | 24.0 | planking spruce wood | 0.120 | 50 | 450 | 1.600 | D |
| G | | vapour barrier $s_d \geq 6\text{m}$ | | | 1000 | | |
| H | 15.0 | gypsum plaster board type DF or | 0.250 | 10 | 800 | 1.050 | A2 |
| H | 15.0 | gypsum fibre board | 0.320 | 21 | 1000 | 1.100 | A2 |

Sustainability rating (per m²)

Database ecoinvent

$OI3_{kon}$ 30.8

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 | | 0.149 | 0.067 | 2,93E-6 | 0.028 | |

| Lifecycle (Phases) | PERE [MJ] | PERM [MJ] | PERT [MJ] | PENRE [MJ] | PENRM [MJ] | PENRT [MJ] |
|-----------------------|--------------|--------------|--------------|---------------|---------------|---------------|
| A1 - A3 | 120.619 | 727.425 | 848.044 | 509.512 | 21.724 | 531.236 |