

External wall - awropo17b-06

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 $E_{d,fi}$ = 50,0 kN/m | | |
| Classified by HFA | | |

| | | |
|---------------------|-----------|---------------------------|
| Thermal performance | U | 0.21 W/(m ² K) |
| | Diffusion | suitable |

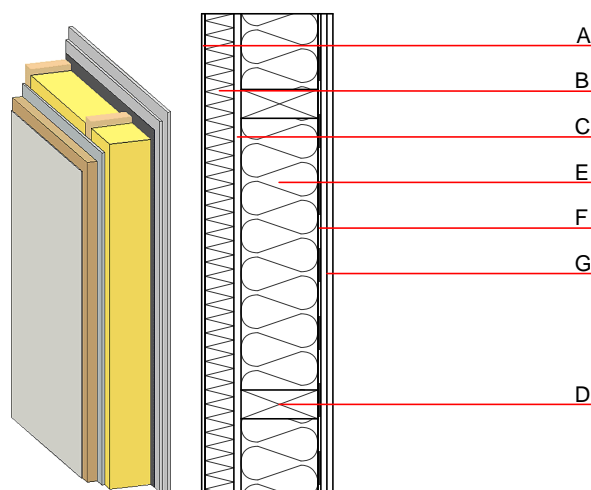
Calculated by HFA

| | | |
|----------------------|--------------------------|---------------|
| Acoustic performance | R_w (C ; C_{tr}) | 51 (-2; 8) dB |
| | $L_{n,w}$ (C_i) | |

Assessed by MA39

| | | |
|--------------------|---|-------------------------|
| Mass per unit area | m | 79.70 kg/m ² |
|--------------------|---|-------------------------|

Calculation based on GF



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 | 15.0 | gypsum fibre board | 0.320 | 21 | 1000 | 1.100 | A2 |
| D | 160.0 | construction timber (60/-; e=*) | 0.120 | 50 | 450 | 1.600 | D |
| E | 160.0 | cellulose fibre [040; E] | 0.040 | 1 - 2 | 55 | 2.000 | E |
| F | | vapour barrier $s_d \geq 3m$ | | | 1000 | | |
| G | 25.0 | gypsum fibre board (2x12,5 mm) or | 0.320 | 21 | 1000 | 1.100 | A2 |
| G | 25.0 | gypsum plaster board type DF (2x12,5 mm) | 0.250 | 10 | 800 | 1.050 | A2 |

Sustainability rating (per m²)

Database ecoinvent

| | |
|--------------------|------|
| 013 _{Kon} | 32.5 |
|--------------------|------|

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 | | 0.134 | 0.055 | 2,97E-6 | 0.016 | |

| Lifecycle (Phases) | PERE [MJ] | PERM [MJ] | PERT [MJ] | PENRE [MJ] | PENRM [MJ] | PENRT [MJ] |
|-----------------------|--------------|--------------|--------------|---------------|---------------|---------------|
| A1 - A3 | 113.673 | 384.004 | 497.677 | 476.099 | 21.724 | 497.824 |