

External wall - awropo12a-04

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 | 30 |
| maximum ceiling height = 3 m; maximum load $E_{d,fi}$ = 32,0 kN/m | | |
| Classified by HFA | | |

| | | |
|---------------------|-----------|---------------------------|
| Thermal performance | U | 0.18 W/(m ² K) |
| | Diffusion | suitable |

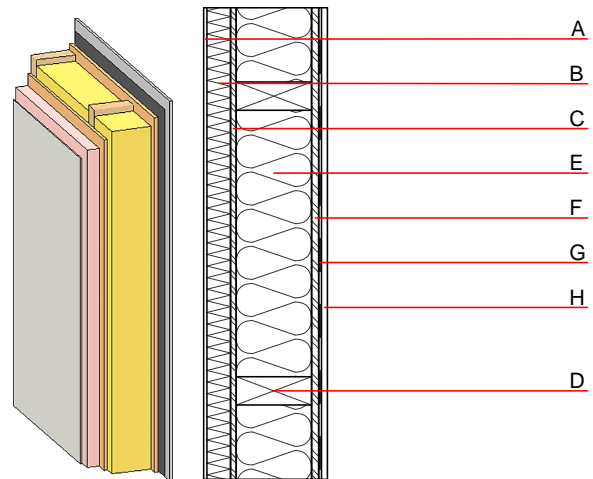
Calculated by HFA

| | | |
|----------------------|-----------------------|--------------|
| Acoustic performance | R_w ($C; C_{tr}$) | 45(-2;-6) dB |
| | $L_{n,w}$ (C_i) | |

Assessed by MA39

| | | |
|--------------------|---|-------------------------|
| Mass per unit area | m | 50.40 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 | 4.0 | plaster | 1.000 | 10 - 35 | 2000 | 1.130 | A1 |
| B | 50.0 | Polystyrene EPS-F [0,040] | 0.040 | 20 - 50 | 17 | 1.450 | E |
| C | 15.0 | OSB | 0.130 | 200 | 600 | 1.700 | D |
| D | 160.0 | construction timber (60/160; e=*) | 0.120 | 50 | 450 | 1.600 | D |
| E | 160.0 | mineral wool [035; 50; <1000°C] | 0.035 | 1 | 50 | 1.030 | A1 |
| F | 15.0 | OSB | 0.130 | 200 | 600 | 1.700 | D |
| G | | vapour barrier sd≥ 23m | | | 1000 | | |
| H | 12.5 | gypsum plaster board type DF or | 0.250 | 10 | 800 | 1.050 | A2 |
| H | 12.5 | gypsum fibre board | 0.320 | 21 | 1000 | 1.100 | A2 |

Sustainability rating (per m²)

Database ecoinvent

O13_{kon} 45.7

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 | | 0.182 | 0.077 | 3,26E-6 | 0.032 | |

| Lifecycle (Phases) | PERE [MJ] | PERM [MJ] | PERT [MJ] | PENRE [MJ] | PENRM [MJ] | PENRT [MJ] |
|-----------------------|--------------|--------------|--------------|---------------|---------------|---------------|
| A1 - A3 | 94.105 | 389.508 | 483.613 | 606.614 | 55.562 | 662.176 |