

External wall - awropo03a-05

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 90
 maximum ceiling height = 3 m; maximum load $E_{d,fi} = 32,0 \text{ kN/m}$
 Classified by HFA

Thermal performance U 0.20 W/(m²K)
 Diffusion suitable

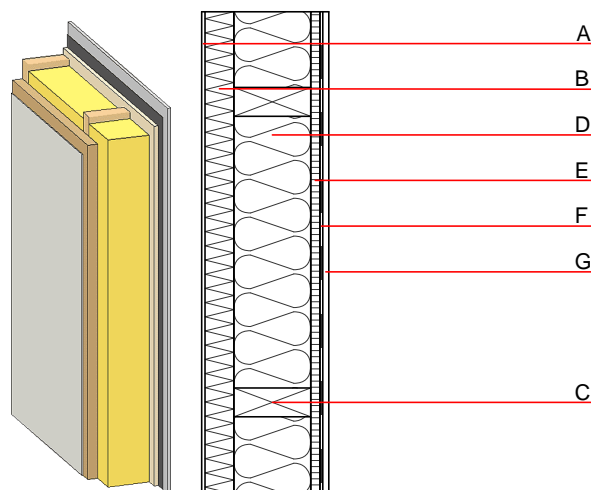
Calculated by HFA

Acoustic performance $R_w (C; C_{tr})$ 49(-3;-9) dB
 $L_{n,w} (C_i)$

Assessed by MA39

Mass per unit area m 65.00 kg/m²

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 | 160.0 | construction timber (60/-; e=*) | 0.120 | 50 | 450 | 1.600 | D |
| D | 160.0 | mineral wool [038; ≥33; ≥1000°C] | 0.038 | 1 | 33 | 1.030 | A1 |
| E | 19.0 | particleboard | 0.130 | 50 - 100 | 700 | 1.700 | D |
| F | | vapour barrier sd≥ 2m | | | 1000 | | |
| G | 12.5 | gypsum plaster board type DF or | 0.250 | 10 | 800 | 1.050 | A2 |
| G | 12.5 | gypsum fibre board | 0.320 | 21 | 1000 | 1.100 | A2 |

Sustainability rating (per m²)

Database ecoinvent

013_{Kon} 42.4

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 | | 0.180 | 0.068 | 2,65E-6 | 0.050 | |

| Lifecycle (Phases) | PERE [MJ] | PERM [MJ] | PERT [MJ] | PENRE [MJ] | PENRM [MJ] | PENRT [MJ] |
|-----------------------|--------------|--------------|--------------|---------------|---------------|---------------|
| A1 - A3 | 66.267 | 565.788 | 632.055 | 584.757 | 57.446 | 642.202 |