

External wall - awrho08b-03

external wall, timber frame construction, ventilated, without dry lining, with cladding, other surface

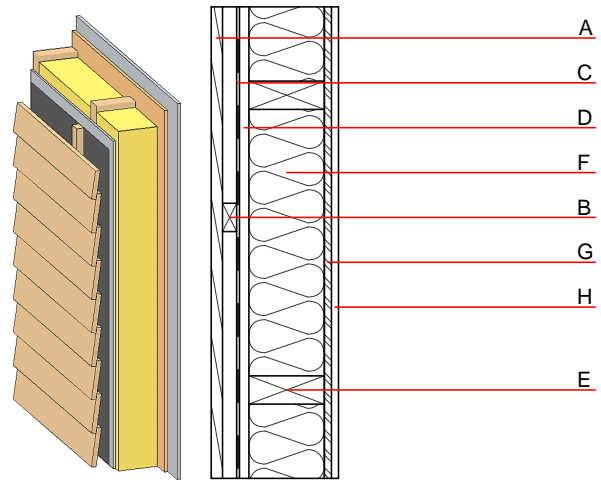
Performance rating

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 0.18 W/(m²K)
 Diffusion suitable
 Calculated by HFA

Acoustic performance
 $R_w (C; C_{tr})$ 51 (-2; 7) dB
 $L_{n,w} (C_i)$
 Battens for the ventilation space screwed onto the structural timber result in an $R_w(C; C_{tr})=47(-1; 6)$ dB
 Assessed by MA39

Mass per unit area m 59.90 kg/m²
 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 | 24.0 | larch wood external wall cladding | 0.155 | 150 | 600 | 1.600 | D |
| B | 30.0 | spruce wood battens offset (30/50; 30/80) - ventilation | 0.120 | 50 | 450 | 1.600 | D |
| C | | wind barrier | | | 1000 | | |
| D | 20.0 | gypsum fibre board (2x10 mm) | 0.320 | 21 | 1000 | 1.100 | A2 |
| E | 240.0 | construction timber (60/...; e=*) | 0.120 | 50 | 450 | 1.600 | D |
| F | 240.0 | mineral wool [040; ≥ 16 ; <1000°C] | 0.040 | 1 | 16 | 1.030 | A1 |
| G | 15.0 | OSB (sealed with airtight tape) | 0.130 | 200 | 600 | 1.700 | D |
| H | 15.0 | gypsum fibre board or | 0.320 | 21 | 1000 | 1.100 | A2 |
| H | 15.0 | gypsum plaster board type DF | 0.250 | 10 | 800 | 1.050 | A2 |

Sustainability rating (per m²)

Database ecoinvent

013_{Kon} 28.8

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 | | 0.131 | 0.060 | 2,70E-6 | 0.025 | |
| Lifecycle (Phases) | PERE [MJ] | PERM [MJ] | PERT [MJ] | PENRE [MJ] | PENRM [MJ] | PENRT [MJ] |
| A1 - A3 | 120.018 | 572.066 | 692.084 | 468.080 | 17.244 | 485.324 |