

External wall - awroho03a-04

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

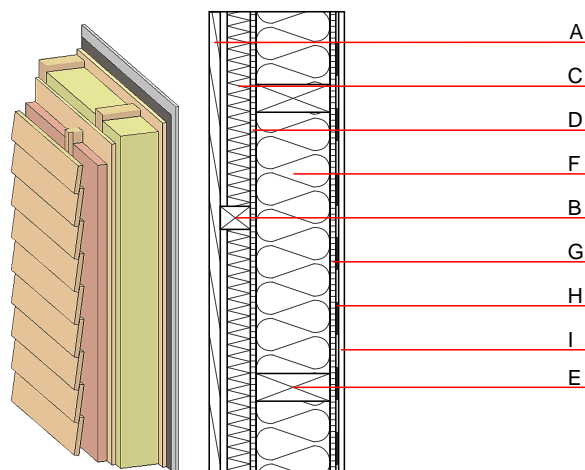
Performance rating

Fire protection performance REI from inside 60
REI from outside 30
maximum ceiling height = 3 m; maximum load $E_{d,fi} = 32,0 \text{ kN/m}$
Classified by HFA

Thermal performance U 0.20 W/(m²K)
Diffusion suitable
Calculated by HFA

Acoustic performance $R_w (C; C_{tr})$ 51 (-2;-7) dB
 $L_{n,w} (C_i)$
Vertical external battens screwed onto the ledger beams lead to an $R_w(C; C_{tr})=47 (-1;-5) \text{ dB}$
Assessed by MA39

Mass per unit area m 71.50 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 | $\mu \text{ min - max}$ | ρ | c | |
| A | 24.0 | larch wood external wall cladding | 0.155 | 150 | 600 | 1.600 | D |
| B | 65.0 | spruce wood cross battens | 0.120 | 50 | 450 | 1.600 | D |
| C | 50.0 | wood wool composite boards | 0.090 | 2 - 5 | 370 | 2.000 | B |
| D | 16.0 | particleboard | 0.130 | 50 - 100 | 700 | 1.700 | D |
| E | 160.0 | construction timber (60/...; e=*) | 0.120 | 50 | 450 | 1.600 | D |
| F | 160.0 | mineral wool [035; 50; <1000°C] | 0.035 | 1 | 50 | 1.030 | A1 |
| G | 12.0 | particleboard | 0.130 | 50 - 100 | 700 | 1.700 | D |
| H | | vapour barrier sd ≥ 10m | | | 1000 | | |
| I | 12.5 | gypsum fibre board or | 0.320 | 21 | 1000 | 1.100 | A2 |
| I | 12.5 | gypsum plaster board type DF | 0.250 | 10 | 800 | 1.050 | A2 |

Sustainability rating (per m²)

Database ecoinvent

OI3_{Kon} 43.6

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 | | 0.188 | 0.083 | 3,39E-6 | 0.036 | |

| Lifecycle (Phases) | PERE [MJ] | PERM [MJ] | PERT [MJ] | PENRE [MJ] | PENRM [MJ] | PENRT [MJ] |
|-----------------------|--------------|--------------|--------------|---------------|---------------|---------------|
| A1 - A3 | 103.151 | 729.597 | 832.749 | 676.983 | 41.362 | 718.345 |