

External wall - awrho04b-01

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 $E_{d,fi} = 50,0 \text{ kN/m}$
 Classified by MA39
 Classified by HFA

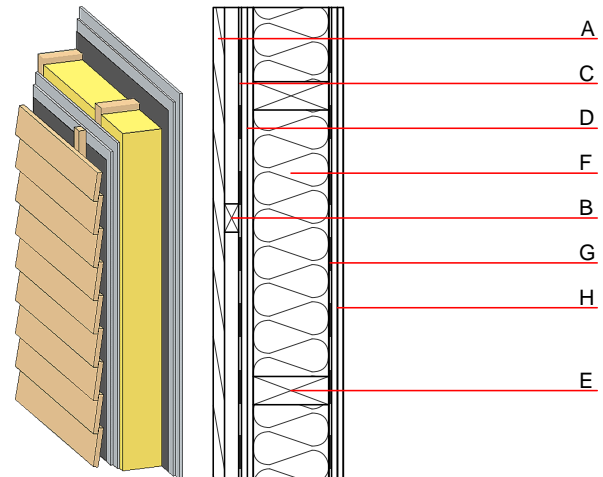
Thermal performance U 0.35 W/(m²K)
 Diffusion suitable

Acoustic performance $R_w (C; C_{tr})$ 47(-2;-7) dB
 $L_{n,w} (C_i)$

Battens for the ventilation space screwed onto the structural timber result in an $R_w(C; C_{tr})=43(-1;-6) \text{ dB}$
 Assessed by MA39

Mass per unit area m 47.90 kg/m²

Calculation based on GF



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 | $\mu \text{ min} - \text{max}$ | 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 | 25.0 | gypsum fibre board (2x... mm) | 0.320 | 21 | 1000 | 1.100 | A2 |
| E | 120.0 | construction timber (60/...; e=625) | 0.120 | 50 | 450 | 1.600 | D |
| F | 120.0 | mineral wool [040; ≥ 16 ; $< 1000^\circ\text{C}$] | 0.040 | 1 | 16 | 1.030 | A1 |
| G | | vapour barrier sd $\geq 2\text{m}$ | | | 1000 | | |
| H | 25.0 | gypsum fibre board (2x... mm) or | 0.320 | 21 | 1000 | 1.100 | A2 |
| H | 25.0 | gypsum plaster board type DF (2x... mm) | 0.250 | 10 | 800 | 1.050 | A2 |

Sustainability rating (per m²)

Database ecoinvent

013_{Kon} 22.1

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 | | 0.087 | 0.041 | 2,21E-6 | 0.017 | |

| Lifecycle (Phases) | PERE [MJ] | PERM [MJ] | PERT [MJ] | PENRE [MJ] | PENRM [MJ] | PENRT [MJ] |
|-----------------------|--------------|--------------|--------------|---------------|---------------|---------------|
| A1 - A3 | 93.164 | 331.215 | 424.379 | 364.883 | 10.862 | 375.746 |