

External wall - awrho09a-04

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

Performance rating

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

Thermal performance
 U 0.17 W/(m²K)
 Diffusion suitable

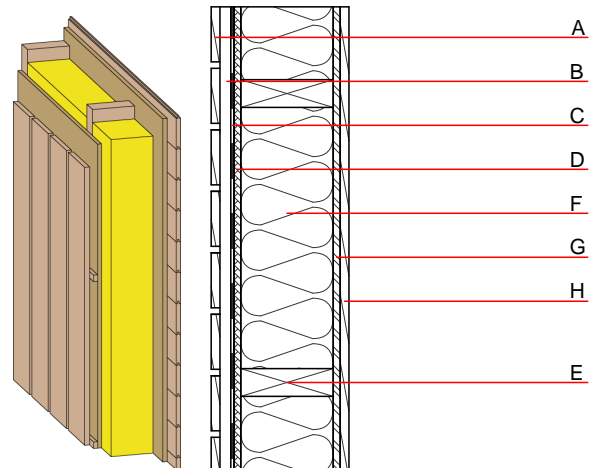
Calculated by HFA

Acoustic performance
 $R_w (C; C_{tr})$ 44(-2;-5) dB
 $L_{n,w} (C_i)$

with closed wooden facade R_w von 47 (-2; -7)

Assessed by TGM

Mass per unit area m 62.60 kg/m²



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 | 19.0 | larch wood external wall cladding (open) vertical | 0.155 | 150 | 600 | 1.600 | D |
| B | 30.0 | larch wood - cross battens (30/50; 30/80) - ventilation | 0.155 | 150 | 600 | 1.600 | D |
| C | | wind barrier | | | 1000 | | |
| D | 15.0 | fibreboard (MDF) | 0.140 | 11 | 600 | 1.700 | D |
| E | 240.0 | construction timber (60/..; e=625) | 0.120 | 50 | 450 | 1.600 | D |
| F | 240.0 | Cellulose fibre [040; 50] | 0.040 | 1 | 50 | 2.000 | E |
| G | 15.0 | OSB | 0.130 | 200 | 600 | 1.700 | D |
| H | 19.0 | planking tongue and groove | 0.120 | 50 | 450 | 1.600 | D |

Sustainability rating (per m²)

Database ecoinvent

OI3_{Kon} 18.5

Calculated by IBO

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 | | 0.127 | 0.055 | 1,74E-6 | 0.026 | |

| Lifecycle (Phases) | PERE [MJ] | PERM [MJ] | PERT [MJ] | PENRE [MJ] | PENRM [MJ] | PENRT [MJ] |
|-----------------------|--------------|--------------|--------------|---------------|---------------|---------------|
| A1 - A3 | 154.662 | 965.462 | 1120.124 | 356.276 | 38.887 | 395.163 |