

External wall - awrhh17a-01

external wall, timber frame construction, ventilated, with dry lining, with cladding, Lehm

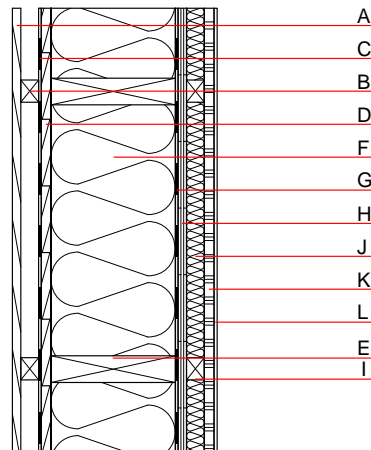
Performance rating

Fire protection performance
 REI from inside 60
 REI from outside 30
 maximum ceiling height = 3 m; maximum load $E_{d,fi} = 35,0 \text{ kN/lm}$
 Classified by HFA

Thermal performance
 U 0.13 $\text{W}/(\text{m}^2\text{K})$
 Diffusion suitable
 Calculated by IBO

Acoustic performance
 $R_w (C; C_{tr})$ 46(-2;-7) dB
 $L_{n,w} (C_i)$
 frequency range 50-3500: $C_{50-3500} -4 \text{ dB}$; $C_{tr,50-3500} -12 \text{ dB}$
 Assessed by HFA

Mass per unit area m 83.50 kg/m^2



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 | 19.0 | larch wood external wall cladding, e.g. clapboard facade | 0.120 | 50 | 450 | 1.600 | D |
| B | 40.0 | spruce wood battens vertical (30/60); ventilation | 0.120 | 50 | 450 | 1.600 | D |
| C | | wind barrier $s_d \leq 0,3\text{m}$ | | | 1000 | | |
| D | 24.0 | planking spruce wood | 0.120 | 50 | 450 | 1.600 | D |
| E | 280.0 | construction timber (60/...; e=625) | 0.120 | 50 | 450 | 1.600 | D |
| F | 280.0 | Cellulose fibre [038; 50] | 0.038 | 1 | 50 | 2.000 | E |
| G | | vapour barrier $s_d \geq 6\text{m}$ | | | 1000 | | |
| H | 16.0 | particleboard | 0.130 | 50 - 100 | 700 | 1.700 | D |
| I | 40.0 | spruce wood (60/60) vertical on resilient clips, e=626 | 0.120 | 50 | 450 | 1.600 | D |
| J | 40.0 | sheep wool [040; 30] | 0.040 | 1 | 30 | 1.720 | E |
| K | 22.0 | clay board or | 0.353 | 5 - 10 | 1450 | 1.100 | A1 |
| L | 5.0 | | 0.810 | 10 | 1700 | 0.930 | A1 |

Sustainability rating (per m^2)

Database ecoinvent

$OI3_{Kon}$ 16.0

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 | | 0.120 | 0.051 | 2,28E-6 | 0.026 | |

| Lifecycle (Phases) | PERE [MJ] | PERM [MJ] | PERT [MJ] | PENRE [MJ] | PENRM [MJ] | PENRT [MJ] |
|-----------------------|--------------|--------------|--------------|---------------|---------------|---------------|
| A1 - A3 | 157.393 | 989.491 | 1146.884 | 346.467 | 23.003 | 369.470 |