

External wall - awropi25a-01

external wall, timber frame construction, not ventilated, with dry lining, with rendering, wooden surface

Performance rating

| | | |
|------------------------------------------------------------------------------------------------|------------------|----|
| Fire protection performance | REI from inside | 30 |
| | REI from outside | 90 |
| maximum ceiling height = 3 m; maximum load $E_{d,fi} = 32,0 \text{ kN/m}$ Classified by HFA | | |

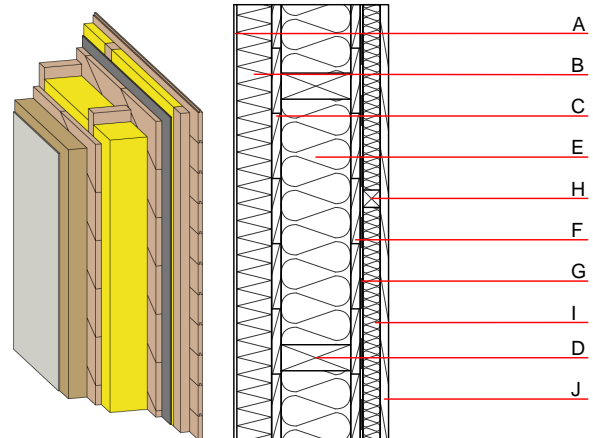
| | | |
|---------------------|-----------|---------------------------|
| Thermal performance | U | 0.12 W/(m ² K) |
| | Diffusion | suitable |

Calculated by HFA

| | | |
|----------------------|-------------------|----------------|
| Acoustic performance | $R_w (C; C_{tr})$ | 51 (-3; 10) dB |
| | $L_{n,w} (C_i)$ | |

Assessed by TGM

| | | |
|--------------------|---|-------------------------|
| Mass per unit area | m | 71.30 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 | $\mu \text{ min} - \text{max}$ | ρ | c | |
| A | 7.0 | plaster | 1.000 | 10 - 35 | 2000 | 1.130 | A1 |
| B | 80.0 | WF-PT [042; 180] | 0.042 | 3 - 7 | 180 | 2.100 | E |
| C | 22.0 | planking spruce wood diagonal | 0.120 | 50 | 450 | 1.600 | D |
| D | 200.0 | construction timber (60/-; e=625) | 0.120 | 50 | 450 | 1.600 | D |
| E | 200.0 | mineral wool [0,35; ≥20; <1000°C] | 0.035 | 1 | 20 | 1.030 | A1 |
| F | 22.0 | planking spruce wood diagonal | 0.120 | 50 | 450 | 1.600 | D |
| G | | vapour barrier $s_d \geq 6 \text{ m}$ | | | 1000 | | |
| H | 40.0 | spruce wood cross battens (a=400) or battens offset | 0.120 | 50 | 450 | 1.600 | D |
| I | 40.0 | mineral wool [0,35; ≥20; <1000°C] | 0.035 | 1 | 20 | 1.030 | A1 |
| J | 19.0 | planking tongue and groove | 0.120 | 50 | 450 | 1.600 | D |

Sustainability rating (per m²)

Database ecoinvent

| | |
|--------------------|------|
| 013 _{Kon} | 38.7 |
|--------------------|------|

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 | | 0.195 | 0.088 | 3,48E-6 | 0.037 | |

| Lifecycle (Phases) | PERE [MJ] | PERM [MJ] | PERT [MJ] | PENRE [MJ] | PENRM [MJ] | PENRT [MJ] |
|-----------------------|--------------|--------------|--------------|---------------|---------------|---------------|
| A1 - A3 | 157.653 | 950.247 | 1107.900 | 626.973 | 27.301 | 654.274 |