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Designation: awropo17b-08
Last updated: 8/2/23
Source: Holzforschung Austria
Editor: HFA, SP

# External wall - awropo17b-08

external wall, timber frame construction, not ventilated, without dry lining, with rendering, 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 kN/m
Classified by HFA

| | | |
|---|---|---|
| **Thermal performance** | **U** | 0.22 W/(m²K) |
| | **Diffusion** | suitable |

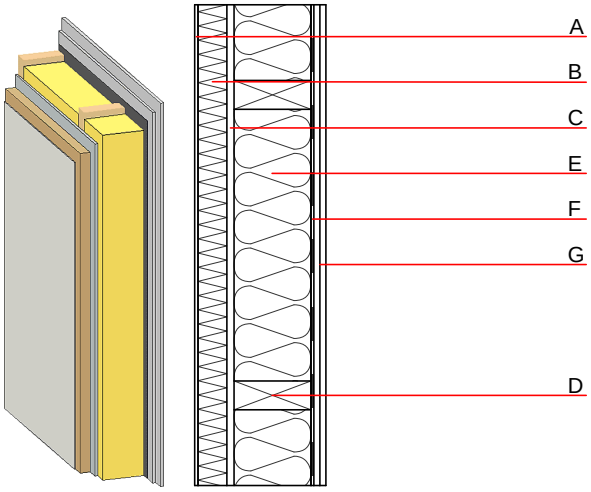
Calculated by HFA

| | | |
|---|---|---|
| **Acoustic performance** | **$R_w$ ($C;C_{tr}$)** | 51(-2;-8) dB |
| | **$L_{n,w}$ ($C_I$)** | |

Assessed by MA39

| | | |
|---|---|---|
| **Mass per unit area** | **m** | 78.20 kg/m² |

Calculation based on GF




**Note: e=400**

## 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 |
|---|---|---|---|---|---|---|---|
| | | | λ | μ min – max | ρ | c | EN |
| A | 7.0 | plaster | 1.000 | 10 - 35 | 2000 | 1.130 | A1 |
| B | 60.0 | wood-fibre insulation board WF-PT [045; 180] | 0.045 | 5 - 7 | 180 | 2.100 | E |
| C | 15.0 | gypsum fibre board | 0.320 | 21 | 1000 | 1.100 | A2 |
| D | 160.0 | construction timber (60/..; e=*) | 0.120 | 50 | 450 | 1.600 | D |
| E | 160.0 | mineral wool [040; ≥16; <1000°C] | 0.040 | 1 | 16 | 1.030 | A1 |
| F | | vapour barrier sd≥ 3m | | | 1000 | | |
| G | 25.0 | gypsum fibre board (2x12,5 mm) or | 0.320 | 21 | 1000 | 1.100 | A2 |
| G | 25.0 | gypsum plaster board type DF (2x12,5 mm) | 0.250 | 10 | 800 | 1.050 | A2 |

## Sustainability rating (per m²)

**Database ecoinvent**

| | |
|---|---|
| **$OI3_{Kon}$** | 37.6 |

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 | | 0.149 | 0.064 | 3,34E-6 | 0.020 | |

| Lifecycle (Phases) | PERE [MJ] | PERM [MJ] | PERT [MJ] | PENRE [MJ] | PENRM [MJ] | PENRT [MJ] |
|---|---|---|---|---|---|---|
| A1 - A3 | 123.136 | 373.660 | 496.796 | 549.083 | 21.724 | 570.807 |