

## External wall - awropo03b-03

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  $E_{d,fi} = 32,0 \text{ kN/m}$   
 Classified by HFA

**Thermal performance** U 0.15 W/(m<sup>2</sup>K)  
 Diffusion suitable

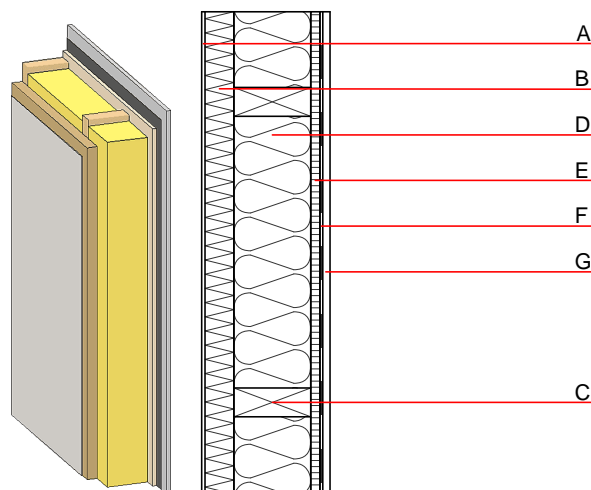
Calculated by HFA

**Acoustic performance**  $R_w (C; C_{tr})$  51 (-2;-7) dB  
 $L_{n,w} (C_i)$

Assessed by MA39

**Mass per unit area** m 71.90 kg/m<sup>2</sup>

Calculation based on gypsum plaster board type DF



Note: e=625

### 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<br>EN |
|---|-----------|--|---------------------|--------------------------------|--------|-------|------------------------|
|   |           |  | $\lambda$           | $\mu \text{ min} - \text{max}$ | $\rho$ | c     |                        |
| 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 | 240.0     | construction timber (60/..; e=*)             | 0.120               | 50                             | 450    | 1.600 | D                      |
| D | 240.0     | mineral wool [040; $\geq 16$ ; <1000°C]      | 0.040               | 1                              | 16     | 1.030 | A1                     |
| E | 19.0      | particleboard                                | 0.130               | 50 - 100                       | 700    | 1.700 | D                      |
| F |           | vapour barrier sd $\geq 2$ m                 |                     |                                | 1000   |       |                        |
| G | 15.0      | gypsum plaster board type DF or              | 0.250               | 10                             | 800    | 1.050 | A2                     |
| G | 15.0      | gypsum fibre board                           | 0.320               | 21                             | 1000   | 1.100 | A2                     |

### Sustainability rating (per m<sup>2</sup>)

#### Database ecoinvent

O13<sub>Kon</sub> 43.5

Calculated by HFA

## Details of sustainability rating

### Database ecoinvent

| Lifecycle<br>(Phases) | GWP<br>[kg CO <sub>2</sub> -e.] | AP<br>[kg SO <sub>2</sub> -e.] | EP<br>[kg PO <sub>4</sub> -e.] | ODP<br>[kg R11-e.] | POCP<br>[kg Ethen-e.] |  |
|-----------------------|---------------------------------|--------------------------------|--------------------------------|--------------------|-----------------------|--|
| A1 - A3               |                                 | 0.176                          | 0.079                          | 3,38E-6            | 0.029                 |  |

| Lifecycle<br>(Phases) | PERE<br>[MJ] | PERM<br>[MJ] | PERT<br>[MJ] | PENRE<br>[MJ] | PENRM<br>[MJ] | PENRT<br>[MJ] |
|-----------------------|--------------|--------------|--------------|---------------|---------------|---------------|
| A1 - A3               | 81.608       | 628.679      | 710.287      | 660.623       | 57.446        | 718.069       |