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Designation: Last updated: Source: Editor: awrhho05b-04 8/2/23 Holzforschung Austria HFA, SP

> A B C E F G

> D

## External wall - awrhho05b-04

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

#### Performance rating

| Fire protection performance   | REI from inside<br>REI from outside                          | 60<br>30                              |  |
|---|--|---------------------------------------|--|
| maximum ceiling height =<br>Classified by HFA                             | 3 m; maximum load E <sub>d,fi</sub>                          | <sub>i</sub> = 25,0 kN∕m              |  |
| Thermal performance   | U<br>Diffusion   | 0.24 W∕(m <sup>2</sup> K)<br>suitable |  |
| Calculated by HFA   |  |                                       |  |
| Acoustic performance  | R <sub>w</sub> (C;C <sub>tr</sub> )<br>L <sub>n,w</sub> (C ) | 46(-2;-8) dB                          |  |
| Battens for the ventilation<br>Rw(C;Ctr)=42(-1;-7) dB<br>Assessed by MA39 | space screwed onto the                                       | structural timber result in an        |  |
| Mass per unit area  | m  | 34.00 kg∕m <sup>2</sup>               |  |

Calculation based on GF

Note: e=625

**N** 

Register of building materials used for this application, cross-section (from outside to inside, dimensions in mm)

|   | Thickness | Building material                                       | Thermal per | rformance   |      |       | Reaction to fire |
|---|-----------|---|-------------|-------------|------|-------|------------------|
|   |           |   | λ           | µ min – max | ρ    | с     | EN               |
| 1 | 24.0      | larch wood external wall cladding                       | 0.155       | 150         | 600  | 1.600 | D                |
| 3 | 30.0      | spruce wood battens offset (30/50; 30/80) - ventilation | 0.120       | 50          | 450  | 1.600 | D                |
| 5 | 15.0      | fibreboard (MDF)  | 0.140       | 11          | 600  | 1.700 | D                |
| D | 160.0     | construction timber (60/; $e=*$ )                       | 0.120       | 50          | 450  | 1.600 | D                |
|   | 160.0     | mineral wool [035; 50; <1000°C]                         | 0.035       | 1           | 50   | 1.030 | A1               |
| : |           | vapour barrier sd≥ 1 m                                  |             |             | 1000 |       |                  |
| 5 | 18.0      | gypsum fibre board or                                   | 0.320       | 21          | 1000 | 1.100 | A2               |
| 5 | 18.0      | gypsum plaster board type DF                            | 0.250       | 10          | 800  | 1.050 | A2               |

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

Database ecoinvent

**OI3<sub>Kon</sub>** Calculated by HFA 37.9

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### Details of sustainability rating

#### Database ecoinvent

| Lifecycle             | GWP                      | AP                       | EP                       | ODP           | POCP          |               |
|-----------------------|--------------------------|--------------------------|--------------------------|---------------|---------------|---------------|
| (Phases)              | [kg CO <sub>2</sub> -e.] | [kg SO <sub>2</sub> -e.] | [kg PO <sub>4</sub> -e.] | [kg R11-e.]   | [kg Ethen-e.] |               |
| A1 - A3               |                          | 0.166                    | 0.075                    | 2,90E-6       | 0.026         |               |
|                       |                          |                          |                          |               |               |               |
|                       |                          |                          |                          |               |               |               |
| Lifecycle             | PERE                     | PERM                     | PERT                     | PENRE         | PENRM         | PENRT         |
| Lifecycle<br>(Phases) | PERE<br>[MJ]             | PERM<br>[MJ]             | PERT<br>[MJ]             | PENRE<br>[MJ] | PENRM<br>[MJ] | PENRT<br>[MJ] |

dataholz.eu – Catalogue of timber building materials, components and component connections reviewed to consider thermal, acoustic, fire performance requirements and ecological drivers for timber construction released by accredited testing institutes. These datasheets will generally be accepted as proofs of compliance by building authorities.