# dataholz.eu

Designation: Last updated: Source: Editor: sdmhzo02-05 8/2/23 Holzforschung Austria HFA, PLB

## Pitched roof - sdmhzo02-05

pitched roof, solid wood construction, ventilated, without dry lining, without lining, wooden surface

### Performance rating

| Fire protection<br>performance              | REI   | 30                                    |
|---|---|---------------------------------------|
| maximum span = 5 m; ma<br>Classified by HFA | aximum load E <sub>d,fi</sub> = 5   | kN∕m² (without roof structure)        |
| <b>Germany</b><br>REI30                     |   |                                       |
| Load E <sub>d,fi</sub> according to the     | German certification  | document                              |
| Corresponding proof: mar                    | ufacturer-specific  |                                       |
| Thermal performance                         | U<br>Diffusion  | 0.14 W∕(m <sup>2</sup> K)<br>suitable |
| Calculated by TUM                           |   |                                       |
| Acoustic performance                        | R <sub>w</sub> (C;C <sub>tr</sub> )<br>L <sub>n,w</sub> (C <sub>l</sub> ) | 40(-1;-7) dB                          |
| Assessed by Müller-BBM                      |   |                                       |
| Mass per unit area                          | m   | $152.60 \text{ kg/m}^2$               |



Note: The design of the under-roof construction and of the counterbattens have to be specified according to the roof pitch and the national requirements. Underlay laminated on insulation board

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

|   | Thickness | Building material   | Thermal pe | Reaction to fire |      |       |    |
|---|-----------|---|------------|------------------|------|-------|----|
|   |           |   | λ          | µ min – max      | ρ    | с     | EN |
| А |           | concrete roof tile / tiled roof                                   |            |                  | 2100 |       | A1 |
| В | 30.0      | spruce wood battens (30/50)                                       | 0.120      | 50               | 450  | 1.600 | D  |
| С | 30.0      | spruce wood counter battens (Germany 30mm); Austria: minimum 50mm | 0.120      | 50               | 450  | 1.600 | D  |
| D |           | sarking membrane sd $\leq$ 0,3m                                   |            |                  | 1000 |       | E  |
| Е | 240.0     | mineral wool [040; 130] on-roof insulation                        | 0.040      | 1                | 130  | 1.030 |    |
| F | 0.2       | sealing sheet (air tight)   |            |                  |      |       |    |
| G | 120.0     | cross laminated timber  | 0.130      | 50               | 500  | 1.600 | D  |

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

| Database ecoinvent |       | Database GaBi (ÖKOBAUDAT)                 |                    |          |  |
|--------------------|-------|---|--------------------|----------|--|
| OI3 <sub>Kon</sub> | 134.2 | Built-in renewable materials              | kg                 | 62.800   |  |
| Calculated by HFA  |       | Biogenic carbon in kg CO <sub>2</sub> -e. | kg CO <sub>2</sub> | 90.490   |  |
|                    |       | Energy use of Primary Energy              | MJ                 | 1407.660 |  |
|                    |       | Share of renewable PE                     | %                  | 22.39    |  |
|                    |       | Calculated by TUM                         |                    |          |  |

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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   |                          | 0.602                    | 0.221                    | 6,39E-6     | 0.202         |          |
|           |                          |                          |                          |             |               |          |
| Lifecycle | PERE                     | PERM                     | PERT                     | PENRE       | PENRM         | PENRT    |
| (Phases)  | [MJ]                     | [M]                      | [M]                      | [LM]        | [LM]          | [MJ]     |
| A1 - A3   | 114.344                  | 911.596                  | 1025.940                 | 1525.997    | 27.020        | 1553.016 |

#### Database GaBi (ÖKOBAUDAT)

| 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   |                          | 0.343                    | 0.051                    | 4,29E-6     | 0.031         |          |
| C1 - C4   |                          | 0.010                    | 0.011                    | 1,63E-7     | 0.002         |          |
| A1 - C4   |                          | 0.356                    | 0.062                    | 4,45E-6     | 0.032         |          |
|           |                          |                          |                          |             |               |          |
| Lifecycle | PERE                     | PERM                     | PERT                     | PENRE       | PENRM         | PENRT    |
| (Phases)  | [MJ]                     | [LM]                     | [LM]                     | [LM]        | [MJ]          | [M]      |
| A1 - A3   | 312.101                  | 1070.597                 | 1380.046                 | 1048.134    | 59.054        | 1106.519 |
| C1 - C4   | 2.402                    | -1065.138                | -1062.736                | 33.793      | 0.000         | 33.793   |
| A1 - C4   | 315.210                  | 5.459                    | 318.016                  | 1092.446    | 59.054        | 1150.831 |