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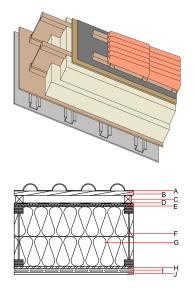
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## Pitched roof - sdshzi01a-01

pitched roof, timber frame construction, ventilated, with dry lining, suspended, other surface

#### Performance rating

| Fire protection<br>performance<br>Classified by HFA | REI   | 60                                    |
|---|---|---------------------------------------|
| Thermal performance<br>Calculated by HFA            | U<br>Diffusion  | 0.10 W/(m <sup>2</sup> K)<br>suitable |
| Acoustic performance<br>Assessed by HFA             | R <sub>w</sub> (C;C <sub>tr</sub> )<br>L <sub>n,w</sub> (C <sub>1</sub> ) | 46 dB                                 |
| Mass per unit area<br>Calculation based on gypsu    | <b>m</b><br>Im plaster board type DF                                      | 84.60 kg/m <sup>2</sup>               |



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.

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

|   | Thickness | Building material   | Thermal per | formance    |      |       | Reaction to fire |
|---|-----------|---|-------------|-------------|------|-------|------------------|
|   |           |   | λ           | µ min – max | ρ    | с     | EN               |
|   |           | concrete roof tile  |             |             | 2100 |       | A1               |
|   | 30.0      | spruce wood   | 0.120       | 50          | 450  | 1.600 | D                |
|   | 50.0      | spruce wood   | 0.120       | 50          | 450  | 1.600 | D                |
| ) |           | sarking membrane sd $\leq$ 0,3m   |             |             | 1000 |       | E                |
|   | 20.0      | softboard [045; 250] - rigid underlay   | 0.045       | 5           | 250  | 2.100 | E                |
|   | 400.0     | Light composite wood-based beams (I-beams) with solid wood flanges ( $60/45$ ) and hard board intermediate web ( $\geq 6,7$ ) | 0.400       | 20 - 30     | 800  | 1.700 | D                |
|   | 400.0     | Wood fibre insulation [039; 45]   | 0.039       | 1 - 2       | 45   | 2.100 | E                |
| 1 | 15.0      | OSB   | 0.130       | 200         | 600  | 1.700 | D                |
|   | 27.0      | metal rail  |             |             |      |       |                  |
|   | 13.0      | gypsum plaster board type DF  | 0.250       | 10          | 800  | 1.050 | A2               |
|   | 13.0      | gypsum fibre board  | 0.320       | 21          | 1000 | 1.100 | A2               |

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

#### Database ecoinvent

Calculated by HFA

OI3<sub>Kon</sub>

39.9

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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     |                          | 0.158                    | 0.075                    | 3,64E-6     | 0.026         |       |
|             |                          |                          |                          |             |               |       |
| Lifecycle   | PERE                     | PERM                     | PERT                     | PENRE       | PENRM         | PENRT |
| 2.1.009.0.0 |                          |                          |                          |             |               |       |
| (Phases)    | [M]                      | [MJ]                     | [MJ]                     | [MJ]        | [MJ]          | [MJ]  |

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