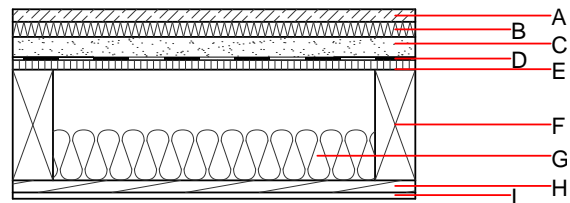
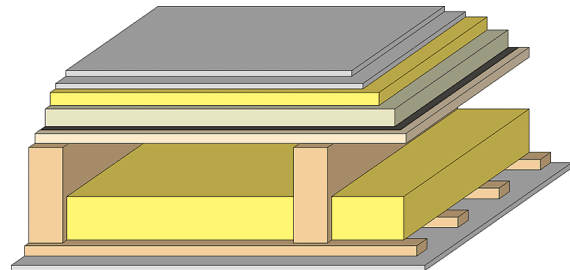


### Intermediate floor - gdrtn02a-09

intermediate floor, timber frame construction, not suspended, dry, with filling, other surface

#### Performance rating

|   |                                     |  |
|---|-------------------------------------|--|
| <b>Fire protection performance</b>  | REI                                 | 30   |
| maximum span = 5 m; maximum load $E_{d,fi} = 3,66 \text{ kN/m}^2$<br>Classified by HFA  |                                     |  |
| <b>Thermal performance</b>  | U<br>Diffusion                      | 0.27 $\text{W}/(\text{m}^2\text{K})$<br>suitable |
| Calculated by HFA   |                                     |  |
| <b>Acoustic performance</b>   | $R_w (C;C_{tr})$<br>$L_{n,w} (C_i)$ | 59(-6;-13) dB<br>65(4)                           |
| EPS-F with a dynamic stiffness of $s' \leq 40\text{MN}/\text{m}^3$ .<br>Assessed by TGM |                                     |  |
| <b>Mass per unit area</b>   | m                                   | 134.30 $\text{kg}/\text{m}^2$                    |
| Calculation based on GF   |                                     |  |



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 |
|---|-----------|--|---------------------|-----------------|--------|-------|------------------------|
|   |           |  | $\lambda$           | $\mu$ min – max | $\rho$ | c     |                        |
| A | 25.0      | dry screed   | 0.210               | 8               | 900    | 1.050 | A1                     |
| B | 30.0      | Polystyrene EPS-W [0,041]  | 0.041               | 20 - 50         | 15     | 1.450 | E                      |
| C | 40.0      | fill   | 0.700               | 1               | 1800   | 1.000 | A1                     |
| D |           | trickling protection   |                     |                 |        |       | E                      |
| E | 19.0      | particleboard  | 0.130               | 50 - 100        | 700    | 1.700 | D                      |
| F | 220.0     | construction timber (80/...; e=*)                                      | 0.120               | 50              | 450    | 1.600 | D                      |
| G | 100.0     | mineral wool [040; $\geq 16$ ; $< 1000^\circ\text{C}$ ]                | 0.040               | 1               | 16     | 1.030 | A1                     |
| H | 24.0      | spruce wood cladding with spacing of cladding boards(24/100);<br>a=400 | 0.120               | 50              | 450    | 1.600 | D                      |
| I | 12.5      | gypsum plaster board type DF or  | 0.250               | 10              | 800    | 1.050 | A2                     |
| I | 12.5      | gypsum fibre board   | 0.320               | 21              | 1000   | 1.100 | A2                     |

#### Sustainability rating (per $\text{m}^2$ )

##### Database ecoinvent

$OI3_{Kon}$  30.0

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               |                                 | 0.122                          | 0.054                          | 2,48E-6            | 0.024                 |  |

| Lifecycle<br>(Phases) | PERE<br>[MJ] | PERM<br>[MJ] | PERT<br>[MJ] | PENRE<br>[MJ] | PENRM<br>[MJ] | PENRT<br>[MJ] |
|-----------------------|--------------|--------------|--------------|---------------|---------------|---------------|
| A1 - A3               | 69.369       | 473.735      | 543.104      | 482.366       | 33.037        | 515.403       |