

## Intermediate floor - gdrnxa04b-04

intermediate floor, timber frame construction, suspended, wet, without filling, other surface

### Performance rating

**Fire protection performance** REI 60

maximum span = 5 m; maximum load  $E_{d,fi} = 3,66 \text{ kN/m}^2$   
Classified by HFA

**Thermal performance** U 0.26 W/(m<sup>2</sup>K)  
Diffusion suitable

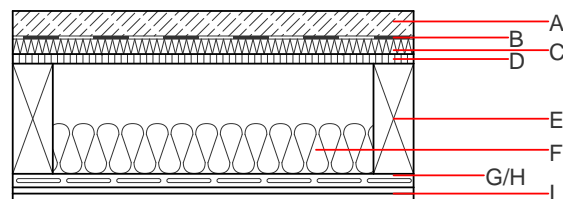
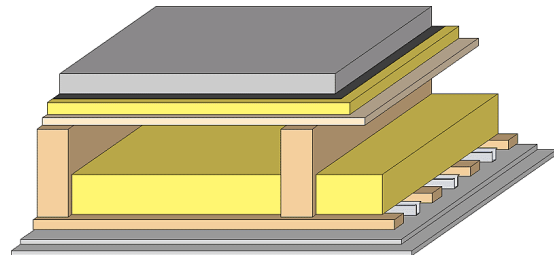
Calculated by HFA

**Acoustic performance**  $R_w (C; C_{tr})$  66(-1;-6) dB  
 $L_{n,w} (C_i)$  51(0)

Assessed by TGM

**Mass per unit area** m 155.50 kg/m<sup>2</sup>

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 | 50.0      | anhydrite screed or cement screed                                   | 0.700               | 10              | 2200   | 1.300 | A1                     |
| B |           | plastic separation layer  | 0.200               | 100000          | 1400   | 1.400 | E                      |
| C | 30.0      | impact sound absorbing subflooring MW-T                             | 0.035               | 1               | 68     | 1.030 | A1                     |
| D | 19.0      | particleboard   | 0.130               | 50 - 100        | 700    | 1.700 | D                      |
| E | 220.0     | construction timber (80/...; e=*)                                   | 0.120               | 50              | 450    | 1.600 | D                      |
| F | 100.0     | mineral wool [038; ≥33; ≥1000°C]                                    | 0.038               | 1               | 33     | 1.030 | A1                     |
| G | 24.0      | spruce wood cladding with spacing of cladding boards(24/100); a=400 | 0.120               | 50              | 450    | 1.600 | D                      |
| H | 27.0      | resilient channel (placed between open formwork)                    | 0.156               |                 |        |       |                        |
| I | 25.0      | gypsum plaster board type DF (2x12,5 mm) or                         | 0.250               | 10              | 800    | 1.050 | A2                     |
| I | 25.0      | gypsum fibre board (2x12,5 mm)                                      | 0.320               | 21              | 1000   | 1.100 | A2                     |

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

#### Database ecoinvent

OI3<sub>Kon</sub> 45.1

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               |                                 | 0.177                          | 0.078                          | 2,68E-6            | 0.046                 |  |

| Lifecycle<br>(Phases) | PERE<br>[MJ] | PERM<br>[MJ] | PERT<br>[MJ] | PENRE<br>[MJ] | PENRM<br>[MJ] | PENRT<br>[MJ] |
|-----------------------|--------------|--------------|--------------|---------------|---------------|---------------|
| A1 - A3               | 80.889       | 473.735      | 554.624      | 622.480       | 33.037        | 655.517       |