

Intermediate floor - gdrnxa08b-07

intermediate floor, timber frame construction, suspended, wet, with 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

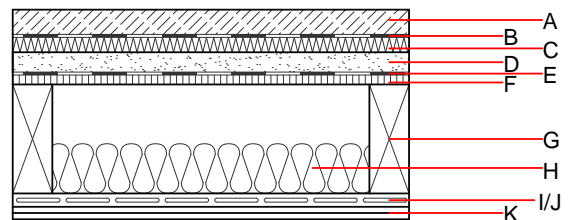
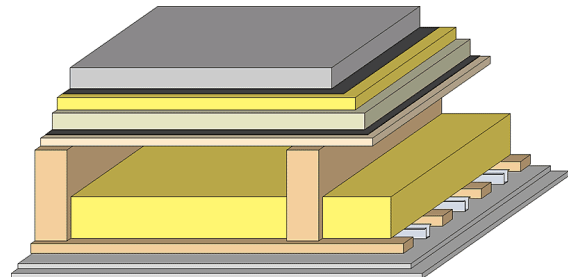
Thermal performance U Diffusion 0.27 W/(m²K)
suitable

energy storage capacity per unit area above: 104,8 kg/m²
Calculated by HFA

Acoustic performance $R_w (C; C_{tr})$ 70(-1;-6) dB
 $L_{n,w} (C_i)$ 43(1)

Mass per unit area m 224.30 kg/m²

Calculation based on gypsum plaster board type DF



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 EN |
|---|-----------|------------------------------------------------------------------------|---------------------|-----------------|--------|-------|------------------------|
| | | | λ | μ min – max | ρ | c | |
| A | 50.0 | cement screed or anhydrite screed | 1.330 | 50 - 100 | 2000 | 1.080 | A1 |
| B | | plastic separation layer | 0.200 | 100000 | 1400 | 1.400 | E |
| C | 30.0 | impact sound absorbing subflooring EPS-T [$s' = 11 \text{ MN/m}^3$] | 0.044 | 20 - 50 | | 1.450 | E |
| D | 40.0 | fill | 0.700 | 1 | 1800 | 1.000 | A1 |
| E | | trickling protection | | | | | E |
| F | 19.0 | particleboard | 0.130 | 50 - 100 | 700 | 1.700 | D |
| G | 220.0 | construction timber (80/-; e=*) | 0.120 | 50 | 450 | 1.600 | D |
| H | 100.0 | mineral wool [040; ≥ 16 ; $< 1000^\circ\text{C}$] | 0.040 | 1 | 16 | 1.030 | A1 |
| I | 24.0 | spruce wood cladding with spacing of cladding boards(24/100); a=400 | 0.120 | 50 | 450 | 1.600 | D |
| J | 27.0 | resilient channel placed between cladding with spacing | 0.156 | | | | |
| K | 25.0 | gypsum plaster board type DF (2x12,5 mm) or | 0.250 | 10 | 800 | 1.050 | A2 |
| K | 25.0 | gypsum fibre board (2x12,5 mm) | 0.320 | 21 | 1000 | 1.100 | A2 |

Sustainability rating (per m²)

Database ecoinvent

OI3_{Kon} 36.0

Calculated by HFA

Details of sustainability rating

Database ecoinvent

| Lifecycle (Phases) | GWP [kg CO ₂ -e.] | AP [kg SO ₂ -e.] | EP [kg PO ₄ -e.] | ODP [kg R11-e.] | POCP [kg Ethen-e.] | |
|-----------------------|---------------------------------|--------------------------------|--------------------------------|--------------------|-----------------------|--|
| A1 - A3 | | 0.133 | 0.064 | 2,32E-6 | 0.030 | |

| Lifecycle (Phases) | PERE [MJ] | PERM [MJ] | PERT [MJ] | PENRE [MJ] | PENRM [MJ] | PENRT [MJ] |
|-----------------------|--------------|--------------|--------------|---------------|---------------|---------------|
| A1 - A3 | 77.026 | 473.735 | 550.760 | 540.879 | 50.059 | 590.938 |