

Intermediate floor - gdmnxa03b-00

intermediate floor, solid wood construction, suspended, wet, with filling, other surface

Performance rating

Fire protection performance REI 90
 maximum span = 5 m; maximum load $E_{d,fi} = 6,5 \text{ kN/m}^2$ (without floor construction)
 Classified by HFA

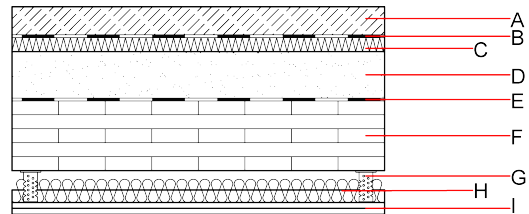
Thermal performance U Diffusion 0.25 $\text{W}/(\text{m}^2\text{K})$ suitable
 Calculated by HFA

Acoustic performance R_w (C;C_{tr}) 84(-6;-14) dB
 $L_{n,w}$ (C_i) 38(3)

[C₁₅₀₋₂₅₀₀] = [13] dB
 Assessed by HFA

Mass per unit area m 414.20 kg/m^2

Calculation based on gypsum plaster board type DF



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 | 60.0 | cement screed m' approx. 150 kg/m^2 | 1.330 | 50 - 100 | 2500 | 1.080 | |
| B | | plastic separation layer | 0.200 | 100000 | 1400 | 1.400 | E |
| C | 30.0 | impact sound absorbing subflooring MW-T [$s' = 10 \text{ MN}/\text{m}^3$] | 0.033 | 1 | 70 | 1.030 | A1 |
| D | 100.0 | elastic bonded (PUR) chippings, m' approx. 160 kg/m^2 | 0.700 | 1 | 1600 | 1.000 | A1 |
| E | | trickling protection | | | | | E |
| F | 160.0 | cross laminated timber 5-ply (first layer minimum 40 mm) | 0.130 | 50 | 500 | 1.600 | D |
| G | 70.0 | acoustic direct hanger with CD-profile (a=400) | | | | | |
| H | 50.0 | mineral wool [040; ≥ 16 ; $< 1000^\circ\text{C}$] | 0.040 | 1 | 16 | 1.030 | A1 |
| I | 25.0 | gypsum plaster board type DF 2x12,5mm or | 0.250 | 10 | 800 | 1.050 | A2 |
| I | 25.0 | gypsum fibre board 2x12,5mm | 0.320 | 21 | 1000 | 1.100 | A2 |

Sustainability rating (per m^2)

Database ecoinvent

013_{kon} 67.5

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 | | 0.295 | 0.133 | 5,15E-6 | 0.075 | |

| Lifecycle (Phases) | PERE [MJ] | PERM [MJ] | PERT [MJ] | PENRE [MJ] | PENRM [MJ] | PENRT [MJ] |
|-----------------------|--------------|--------------|--------------|---------------|---------------|---------------|
| A1 - A3 | 70.247 | 1094.400 | 1164.647 | 1027.272 | 52.971 | 1080.242 |