

Compartment wall - twmxxo07b-02

compartment wall, solid wood construction, without dry lining, double-layer, other surface

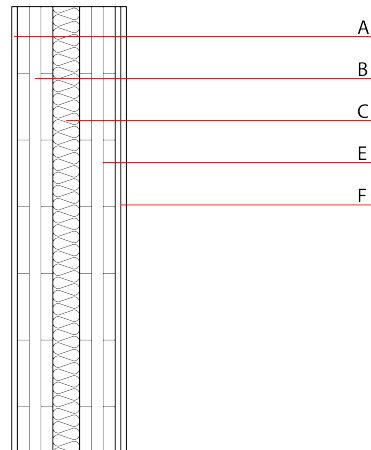
Performance rating

Fire protection performance REI 60
applies for each of the load-bearing walls; for the overall structure EI 90;
maximum ceiling height = 3 m; maximum load $E_{d,fi}$ = 35,0 kN/m
Classified by HFA

Thermal performance U 0.35 W/(m²K)
Diffusion suitable
Calculated by HFA

Acoustic performance R_w (C;C_{tr}) 61(-5;-10) dB
 $L_{n,w}$ (C_i)
frequency range 50-3500: C₅₀₋₃₅₀₀ -6 dB; C_{tr 50-3500} -15 dB
Assessed by HFA

Mass per unit area m 116.80 kg/m²



Note: Cross laminated timber

Var. 00-01: thickness ≥ 78mm; 3-ply at least, surface layer at least 25mm

Var. 02: thickness ≥ 94,0mm; 3-ply at least, surface layer at least 30mm

A and F: 2x12,5mm gypsum fibre board or 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 | 25.0 | gypsum plaster board type DF | 0.250 | 10 | 800 | 1.050 | A2 |
| A | 25.0 | gypsum fibre board | 0.320 | 21 | 1000 | 1.100 | A2 |
| B | 80.0 | cross laminated timber 3-ply | 0.130 | 50 | 500 | 1.600 | D |
| C | 40.0 | mineral wool [0,35; ≥20; <1000°C] | 0.035 | 1 | 20 | 1.030 | A1 |
| E | 80.0 | cross laminated timber 3-ply | 0.130 | 50 | 500 | 1.600 | D |
| F | 25.0 | gypsum plaster board type DF (2x12,5) or | 0.250 | 10 | 800 | 1.050 | A2 |
| F | 25.0 | gypsum fibre board (2x12,5) | 0.320 | 21 | 1000 | 1.100 | A2 |

Sustainability rating (per m²)

Database ecoinvent

O13_{Kon} 39.6

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 | | 0.200 | 0.085 | 4,13E-6 | 0.061 | |

| Lifecycle (Phases) | PERE [MJ] | PERM [MJ] | PERT [MJ] | PENRE [MJ] | PENRM [MJ] | PENRT [MJ] |
|-----------------------|--------------|--------------|--------------|---------------|---------------|---------------|
| A1 - A3 | 50.512 | 1094.400 | 1144.912 | 729.621 | 27.489 | 757.110 |