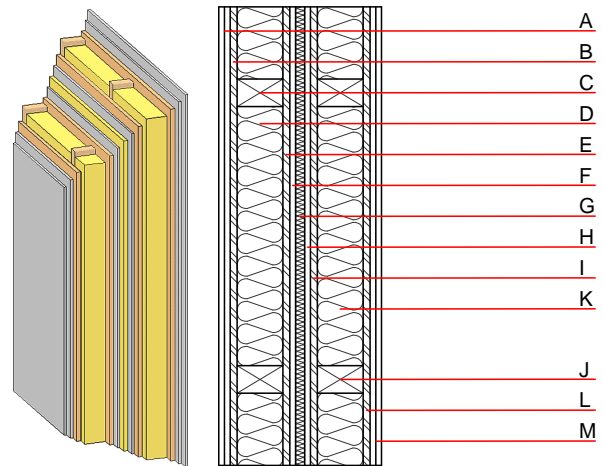


Compartment wall - twrxo07b-03

compartment wall, timber frame construction, without dry lining, double-layer, Gipsplatte

Performance rating

| | | |
|--|--|--|
| Fire protection performance | REI | 90 |
| apply to each individual load-bearing wall; the whole wall: EI90; maximum ceiling height = 3 m; maximum load $E_{d,fi} = 19,0 \text{ kN/m}$ Classified by HFA | | |
| Thermal performance | U Diffusion | 0.17 $\text{W}/(\text{m}^2\text{K})$ suitable |
| Calculated by HFA | | |
| Acoustic performance | R_w ($C; C_{tr}$) $L_{n,w}$ (C_i) | 60(-3;-10) dB |
| Assessed by MA39 | | |
| Mass per unit area | m | 122.50 kg/m^2 |
| 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 | 25.0 | gypsum plaster board type DF (2x12,5 mm) or | 0.250 | 10 | 800 | 1.050 | A2 |
| A | 25.0 | gypsum fibre board (2x12,5 mm) | 0.320 | 21 | 1000 | 1.100 | A2 |
| B | 15.0 | OSB | 0.130 | 200 | 600 | 1.700 | D |
| C | 100.0 | construction timber (60/100; e=*) | 0.120 | 50 | 450 | 1.600 | D |
| D | 100.0 | cellulose fibre [0,040; R=55] | 0.040 | 1 - 2 | 55 | 2.000 | B |
| E | 15.0 | OSB | 0.130 | 200 | 600 | 1.700 | D |
| F | 12.5 | gypsum plaster board type DF or | 0.250 | 10 | 800 | 1.050 | A2 |
| F | 12.5 | gypsum fibre board | 0.320 | 21 | 1000 | 1.100 | A2 |
| G | 20.0 | mineral wool [040; ≥ 16 ; $< 1000^\circ\text{C}$] | 0.040 | 1 | 16 | 1.030 | A1 |
| H | 12.5 | gypsum plaster board type DF or | 0.250 | 10 | 800 | 1.050 | A2 |
| H | 12.5 | gypsum fibre board | 0.320 | 21 | 1000 | 1.100 | A2 |
| I | 15.0 | OSB | 0.130 | 200 | 600 | 1.700 | D |
| J | 100.0 | construction timber (60/100; e=*) | 0.120 | 50 | 450 | 1.600 | D |
| K | 100.0 | cellulose fibre [0,040; R=55] | 0.040 | 1 - 2 | 55 | 2.000 | B |
| L | 15.0 | OSB | 0.130 | 200 | 600 | 1.700 | D |
| M | 25.0 | gypsum plaster board type DF (2x12,5 mm) or | 0.250 | 10 | 800 | 1.050 | A2 |
| M | 25.0 | gypsum fibre board (2x12,5 mm) | 0.320 | 21 | 1000 | 1.100 | A2 |

Sustainability rating (per m^2)

Database ecoinvent

$O13_{kon}$ 33.9

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 | | 0.194 | 0.083 | 4,14E-6 | 0.048 | |

| Lifecycle (Phases) | PERE [MJ] | PERM [MJ] | PERT [MJ] | PENRE [MJ] | PENRM [MJ] | PENRT [MJ] |
|-----------------------|--------------|--------------|--------------|---------------|---------------|---------------|
| A1 - A3 | 290.658 | 1534.255 | 1824.913 | 726.520 | 43.364 | 769.884 |