

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 $E_{d,fi} = 35,0 \text{ kN/m}$
 Classified by HFA

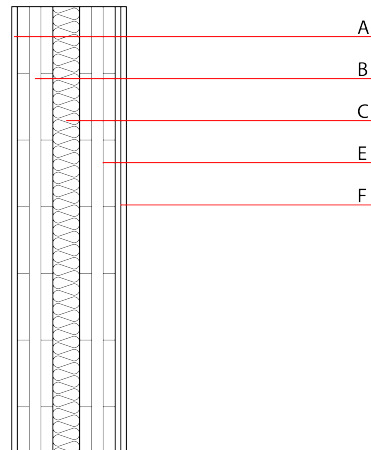
Thermal performance U Diffusion 0.35 $\text{W}/(\text{m}^2\text{K})$ suitable

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/m^2



Note: Cross laminated timber

Var. 00-01: thickness $\geq 78\text{mm}$; 3-ply at least, surface layer at least 25mm

Var. 02: thickness $\geq 94,0\text{mm}$; 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 ; $< 1000^\circ\text{C}$]	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 m^2)

Database ecoinvent

OI3_{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