

Compartment wall - twmxxo01 a-00

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

Performance rating

Fire protection performance REI 90

applies for each of the load-bearing walls and for the overall structure; maximum ceiling height = 3 m; maximum load $E_{d,fi} = 35,0 \text{ kN/m}$
 Classified by HFA

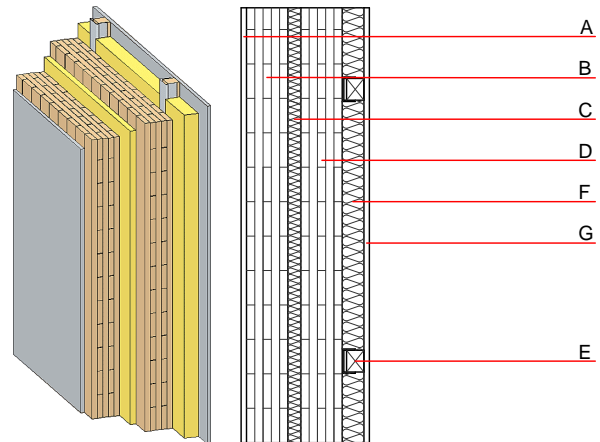
Thermal performance U Diffusion 0.27 $\text{W}/(\text{m}^2\text{K})$ suitable

Side without VS: 43,6 kg/m^2
 Calculated by HFA

Acoustic performance $R_w (C; C_{tr})$ 62 dB
 $L_{n,w} (C_i)$

Mass per unit area m 119.80 kg/m^2

Calculation based on gypsum plaster board type DF



Note:
 Cross laminated timber: thickness $\geq 95\text{mm}$; 5-ply at least, surface layer at least 19mm
 E: battens (50/40) on resilient clips

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	12.5	gypsum plaster board type DF	0.250	10	800	1.050	A2
A	12.5	gypsum fibre board	0.320	21	1000	1.100	A2
B	95.0	solid glued wood (e.g. cross laminated timber)	0.130	50	500	1.600	D
C	30.0	impact sound absorbing subflooring MW-T	0.035	1	68	1.030	A1
D	95.0	solid glued wood (e.g. cross laminated timber)	0.130	50	500	1.600	D
E	50.0	spruce wood	0.120	50	450	1.600	D
F	50.0	mineral wool [040; ≥ 16 ; $< 1000^\circ\text{C}$]	0.040	1	16	1.030	A1
G	12.5	gypsum plaster board type DF	0.250	10	800	1.050	A2
G	12.5	gypsum fibre board	0.320	21	1000	1.100	A2

Sustainability rating (per m^2)

Database ecoinvent

013_{kon} 47.4

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		0.257	0.102	4,31E-6	0.086	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	60.863	1325.805	1386.668	818.124	32.643	850.767