

Compartment wall - twrxo02b-01

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

Performance rating

Fire protection performance REI 90
 applies for each of the load-bearing walls; for the overall structure EI 90;
 maximum ceiling height = 3 m; maximum load $E_{d,fi} = 19,0 \text{ kN/m}$
 Classified by HFA

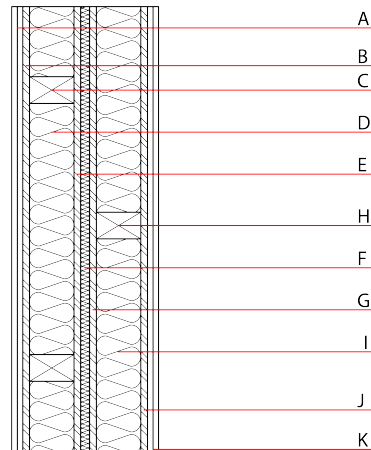
Thermal performance U Diffusion 0.13 $\text{W}/(\text{m}^2\text{K})$
 suitable

Calculated by HFA

Acoustic performance $R_w (C; C_{tr})$ 68(-4; 12) dB
 $L_{n,w} (C_i)$

frequency range 50-3500: $C_{50-3500} -12 \text{ dB}$; $C_{tr 50-3500} -24 \text{ dB}$
 Assessed by HFA

Mass per unit area m 101.10 kg/m^2



Note: C/H: staggered

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	$\mu \text{ min - max}$	ρ	c	
A	25.0	gypsum plaster board type DF (2x12,5) or	0.250	10	800	1.050	A2
A	25.0	gypsum fibre board (2x12,5)	0.320	21	1000	1.100	A2
B	15.0	OSB	0.130	200	600	1.700	D
C	100.0	construction timber (60/..; e=625)	0.120	50	450	1.600	D
D	100.0	mineral wool [040; 30; $\geq 1000^\circ\text{C}$]	0.040	1	30	1.030	A1
E	15.0	OSB	0.130	200	600	1.700	D
F	80.0	impact sound absorbing subflooring MW 3-layers [100; 2x30mm $s' = 10 \text{ MN}/\text{m}^2$, 1x20mm $s' = 14 \text{ MN}/\text{m}^2$]	0.035	1	100	1.030	A2
G	15.0	OSB	0.130	200	600	1.700	D
H	100.0	construction timber (60/..; e=625)	0.120	50	450	1.600	D
I	100.0	mineral wool [040; 30; $\geq 1000^\circ\text{C}$]	0.040	1	30	1.030	A1
J	15.0	OSB	0.130	200	600	1.700	D
K	25.0	gypsum plaster board type DF (2x12,5) or	0.250	10	800	1.050	A2
K	25.0	gypsum fibre board (2x12,5)	0.320	21	1000	1.100	A2

Sustainability rating (per m^2)

Database ecoinvent

$O13_{kon}$ 60.4

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		0.280	0.091	3.62E-6	0.096	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	170.950	792.122	963.072	772.049	46.978	819.027