

Compartment wall - twrxo03a-03

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

Performance rating

Fire protection performance REI 45
apply to each of the load bearing walls; the whole wall: EI90; maximum ceiling height = 3 m; maximum load $E_{d,fi} = 19,2 \text{ kN/m}$
Classified by HFA

Thermal performance U 0.19 W/(m²K)
Diffusion suitable

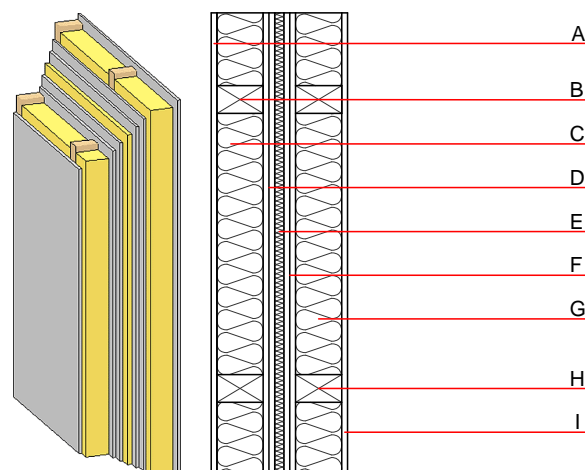
Calculated by HFA

Acoustic performance R_w (C;C_{tr}) 58(-3;11) dB
 $L_{n,w}$ (C_i)

Assessed by MA39

Mass per unit area m 83.50 kg/m²

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	12.5	gypsum plaster board type DF or	0.250	10	800	1.050	A2
A	12.5	gypsum fibre board	0.320	21	1000	1.100	A2
B	100.0	construction timber (60/100; e=*)	0.120	50	450	1.600	D
C	100.0	cellulose fibre [0,040; R=55]	0.040	1 - 2	55	2.000	B
D	25.0	gypsum plaster board type DF (2x12,5 mm) or	0.250	10	800	1.050	A2
D	25.0	gypsum fibre board (2x12,5 mm)	0.320	21	1000	1.100	A2
E	20.0	mineral wool [040; ≥ 16 ; <1000°C]	0.040	1	16	1.030	A1
F	25.0	gypsum plaster board type DF (2x12,5 mm) or	0.250	10	800	1.050	A2
F	25.0	gypsum fibre board (2x12,5 mm)	0.320	21	1000	1.100	A2
G	100.0	construction timber (60/100; e=*)	0.120	50	450	1.600	D
H	100.0	cellulose fibre [0,040; R=55]	0.040	1 - 2	55	2.000	B
I	12.5	gypsum plaster board type DF or	0.250	10	800	1.050	A2
I	12.5	gypsum fibre board	0.320	21	1000	1.100	A2

Sustainability rating (per m²)

Database ecoinvent

013_{Kon} 21.4

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		0.081	0.036	2,30E-6	0.012	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	51.372	258.600	309.972	343.482	0.000	343.482