Compartment wall - twrxxo03b-02

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

Performance rating

Fire protection performance	**REI**	60

apply to each individual load-bearing wall; the whole wall: EI90; maximum ceiling height = 3 m; maximum load $E_{d,fi}$ = 50,0 kN/m
Classified by MA39
Classified by HFA

Thermal performance	**U**	0.19 W/(m²K)
	Diffusion	suitable

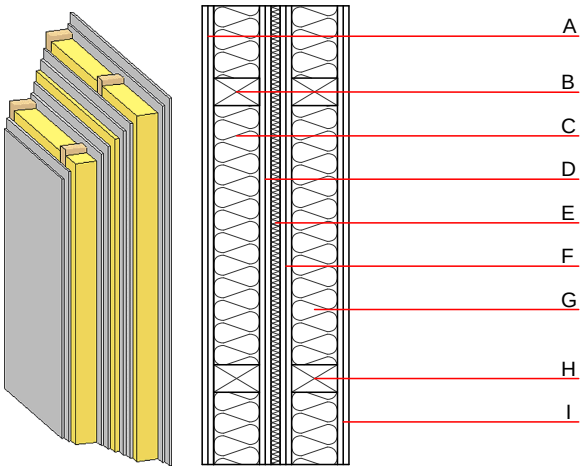
Calculated by HFA

Acoustic performance	**R_w ($C_;C_{tr}$)**	59(-2;-10) dB
	$L_{n,w}$ (C_I)	

Assessed by MA39

Mass per unit area	**m**	95.90 kg/m²

Calculation based on gypsum plaster board type DF



Note: layer A, D, F, I: planking 2x12,5mm; 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
			λ	μ min – max	ρ	c	EN
A	25.0	gypsum plaster board type DF or	0.250	10	800	1.050	A2
A	25.0	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	mineral wool [038; ≥33; ≥1000°C]	0.038	1	33	1.030	A1
D	25.0	gypsum plaster board type DF or	0.250	10	800	1.050	A2
D	25.0	gypsum fibre board	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 or	0.250	10	800	1.050	A2
F	25.0	gypsum fibre board	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	mineral wool [038; ≥33; ≥1000°C]	0.038	1	33	1.030	A1
I	25.0	gypsum plaster board type DF or	0.250	10	800	1.050	A2
I	25.0	gypsum fibre board	0.320	21	1000	1.100	A2

Sustainability rating (per m²)

Database ecoinvent

$OI3_{Kon}$	39.0

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		0.145	0.051	2,95E-6	0.047	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	50.796	157.229	208.025	510.104	0.000	510.104