

External wall - awropo01a-07

external wall, timber frame construction, not ventilated, without dry lining, with rendering, other surface

Performance rating

Fire protection performance	REI from inside	30
	REI from outside	30
maximum ceiling height = 3 m; maximum load $E_{d,fi}$ = 19,2 kN/m		
Classified by HFA		

Thermal performance	U	0.22 W/(m ² K)
	Diffusion	suitable

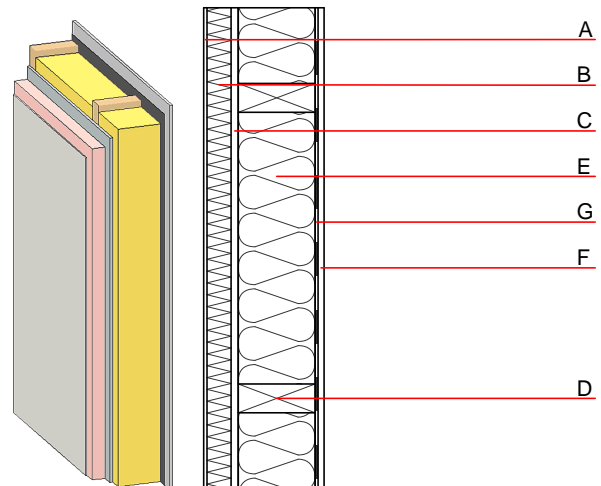
Calculated by HFA

Acoustic performance	R_w (C ; C_{tr})	44(-2;-6) dB
	$L_{n,w}$ (C_i)	

Assessed by MA39

Mass per unit area	m	42.70 kg/m ²
--------------------	---	-------------------------

Calculation based on GF



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	4.0	plaster	1.000	10 - 35	2000	1.130	A1
B	50.0	Polystyrene EPS-F [0,040]	0.040	20 - 50	17	1.450	E
C	15.0	gypsum fibre board	0.320	21	1000	1.100	A2
D	160.0	construction timber (60/-; e=*)	0.120	50	450	1.600	D
E	160.0	sheep wool [0,041; R=26]	0.041	1	30	1.720	E
F		vapour barrier sd \geq 13m			1000		
G	12.5	gypsum fibre board or	0.320	21	1000	1.100	A2
G	12.5	gypsum plaster board type DF	0.250	10	800	1.050	A2

Sustainability rating (per m²)

Database ecoinvent

013 _{Kon}	19.5
--------------------	------

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		0.062	0.025	1,70E-6	0.016	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	32.493	214.574	247.067	285.761	36.916	322.677