

External wall - awropo22a-08

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

Performance rating

Fire protection performance	REI from inside	45
	REI from outside	60
maximum ceiling height = 3 m; maximum load $E_{d,fi}$ = 32,0 kN/m		
Classified by HFA		

Thermal performance	U	0.21 W/(m ² K)
	Diffusion	suitable

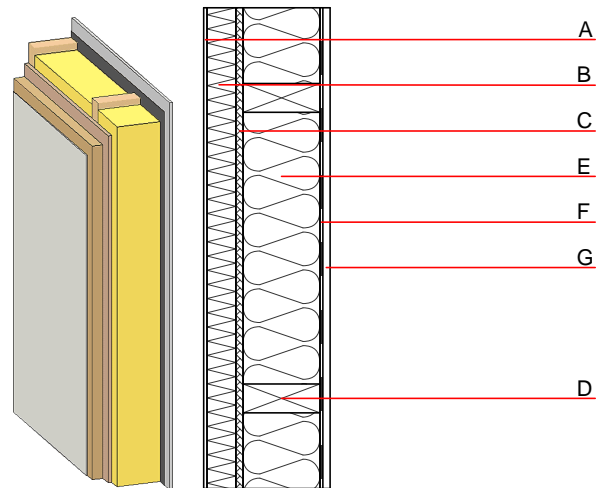
Calculated by HFA

Acoustic performance	R_w ($C; C_{tr}$)	50(-3;-9) dB
	$L_{n,w}$ (C_i)	

Assessed by MA39

Mass per unit area	m	67.20 kg/m ²
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Calculation based on GF



Note: e=400

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	7.0	plaster	1.000	10 - 35	2000	1.130	A1
B	60.0	wood-fibre insulation board WF-PT [045; 180]	0.045	5 - 7	180	2.100	E
C	15.0	fibreboard (MDF)	0.140	11	600	1.700	D
D	160.0	construction timber (60/-; e=*)	0.120	50	450	1.600	D
E	160.0	mineral wool [040; ≥ 16 ; <1000°C]	0.040	1	16	1.030	A1
F		vapour barrier $s_d \geq 3m$			1000		
G	15.0	gypsum fibre board or	0.320	21	1000	1.100	A2
G	15.0	gypsum plaster board type DF	0.250	10	800	1.050	A2

Sustainability rating (per m²)

Database ecoinvent

013 _{Kon}	32.6
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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		0.138	0.062	2,62E-6	0.020	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	80.024	520.797	600.821	490.941	39.775	530.715