

External wall - awropo17b-02

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

Performance rating

Fire protection performance REI from inside 60
 REI from outside 60
 maximum ceiling height = 3 m; maximum load $E_{d,fi} = 50,0 \text{ kN/m}$
 Classified by HFA

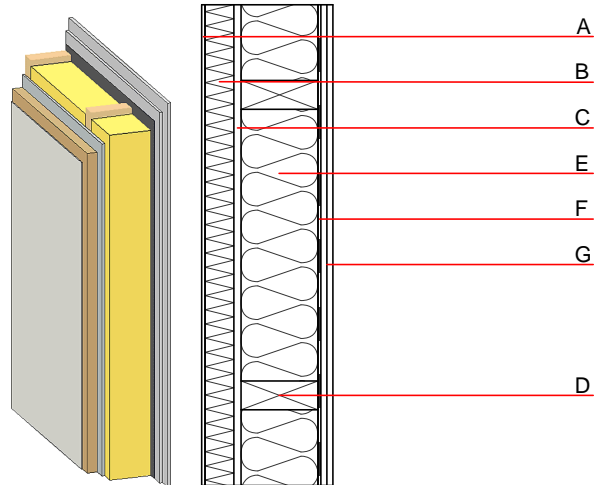
Thermal performance U 0.18 $\text{W}/(\text{m}^2\text{K})$
 Diffusion suitable
 Calculated by HFA

Acoustic performance $R_w (C; C_{tr})$ 52(-2;-8) dB
 $L_{n,w} (C_i)$

Assessed by MA39

Mass per unit area m 76.50 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	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	gypsum fibre board	0.320	21	1000	1.100	A2
D	200.0	construction timber (60/..; e=*)	0.120	50	450	1.600	D
E	200.0	mineral wool [040; ≥ 16 ; $< 1000^\circ\text{C}$]	0.040	1	16	1.030	A1
F		vapour barrier $s_d \geq 3\text{m}$			1000		
G	25.0	gypsum fibre board (2x12,5 mm) or	0.320	21	1000	1.100	A2
G	25.0	gypsum plaster board type DF (2x12,5 mm)	0.250	10	800	1.050	A2

Sustainability rating (per m^2)

Database ecoinvent

$O13_{kon}$ 40.6

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		0.158	0.068	3,51E-6	0.021	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	117.803	334.353	452.156	577.781	21.724	599.505