

External wall - awropi24a-05

external wall, timber frame construction, not ventilated, with dry lining, with rendering, wooden surface

Performance rating

Fire protection performance	REI from inside	30
	REI from outside	90

maximum ceiling height = 3 m; maximum load $E_{d,fi} = 32,0 \text{ kN/m}$
 Classified by HFA

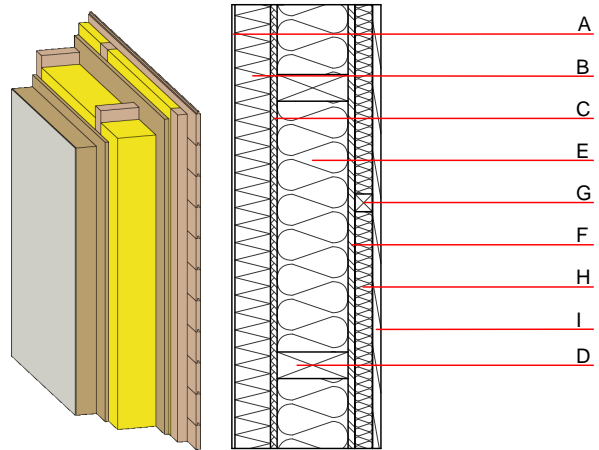
Thermal performance	U	0.13 $\text{W}/(\text{m}^2\text{K})$
	Diffusion	suitable

Calculated by HFA

Acoustic performance	$R_w (C; C_{tr})$	51 (-3; 10) dB
	$L_{n,w} (C_i)$	

Assessed by TGM

Mass per unit area	m	77.00 kg/m^2
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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	80.0	WF-PT [042; 180]	0.042	3 - 7	180	2.100	E
C	15.0	fibreboard (MDF)	0.140	11	600	1.700	D
D	200.0	construction timber (60/...; e=625)	0.120	50	450	1.600	D
E	200.0	Wood fibre insulation [039; 50]	0.039	1 - 2	50	2.100	E
F	15.0	OSB (sealed with airtight tape)	0.130	200	600	1.700	D
G	40.0	spruce wood cross battens (a=400) or battens offset)	0.120	50	450	1.600	D
H	40.0	Wood fibre insulation [039; 50]	0.039	1 - 2	50	2.100	E
I	19.0	planking tongue and groove	0.120	50	450	1.600	D

Sustainability rating (per m^2)

Database ecoinvent

O13_{Kon}	34.9
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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		0.172	0.076	3,05E-6	0.030	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	154.110	1060.541	1214.651	609.269	68.449	677.718