

External wall - awropi18b-09

external wall, timber frame construction, not ventilated, with 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 $E_{d,fi} = 32,0 \text{ kN/m}$
Classified by HFA

Thermal performance U 0.16 W/(m²K)
Diffusion suitable

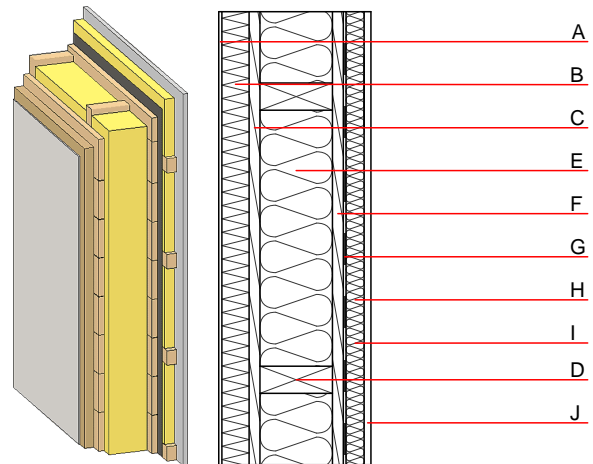
Calculated by HFA

Acoustic performance $R_w (C; C_{tr})$ 52(-2;9) dB
 $L_{n,w} (C_i)$

Vertical battens for the dry lining screwed onto the ledger beams lead to an $R_w(C;C_{tr})=49(-1;-7)$ dB
Assessed by MA39

Mass per unit area m 87.60 kg/m²

Calculation based on gypsum plaster board type DF



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	24.0	planking spruce wood	0.120	50	450	1.600	D
D	160.0	construction timber (60/...; e=*)	0.120	50	450	1.600	D
E	160.0	cellulose fibre [0,040; R=55]	0.040	1 - 2	55	2.000	B
F	24.0	planking spruce wood	0.120	50	450	1.600	D
G		vapour barrier sd≥ 7m			1000		
H	40.0	spruce wood cross battens (a=400) or battens offset	0.120	50	450	1.600	D
I	40.0	cellulose fibre [040; E]	0.040	1 - 2	55	2.000	E
J	15.0	gypsum plaster board type DF or	0.250	10	800	1.050	A2
J	15.0	gypsum fibre board	0.320	21	1000	1.100	A2

Sustainability rating (per m²)

Database ecoinvent

OI3_{Kon} 27.2

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		0.146	0.063	2,73E-6	0.027	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	129.425	885.839	1015.264	476.917	30.052	506.969