

External wall - awropi01 a-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 30
maximum ceiling height = 3 m; maximum load $E_{d,fi} = 19,2 \text{ kN/m}$
Classified by HFA

Thermal performance
U 0.17 W/(m²K)
Diffusion suitable

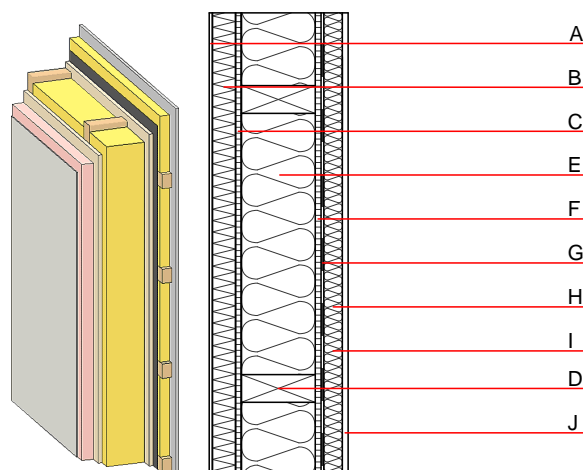
Calculated by HFA

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

Vertical battens for the dry lining screwed onto the ledger beams lead to an $R_w(C; C_{tr})=41(-1;-5) \text{ dB}$
Assessed by MA39

Mass per unit area m 57.40 kg/m²

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	$\mu \text{ min} - \text{max}$	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	16.0	particleboard	0.130	50 - 100	700	1.700	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	16.0	particleboard	0.130	50 - 100	700	1.700	D
G		vapour barrier sd \geq 17m			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 [0,040; R=55] or air layer in type 02	0.040	1 - 2	55	2.000	B
J	12.5	gypsum plaster board type DF or	0.250	10	800	1.050	A2
J	12.5	gypsum fibre board	0.320	21	1000	1.100	A2

Sustainability rating (per m²)

Database ecoinvent

OI3_{Kon} 25.9

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		0.109	0.043	1,73E-6	0.027	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	52.439	553.342	605.781	409.800	79.102	488.902