

External wall - awropi04a-09

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

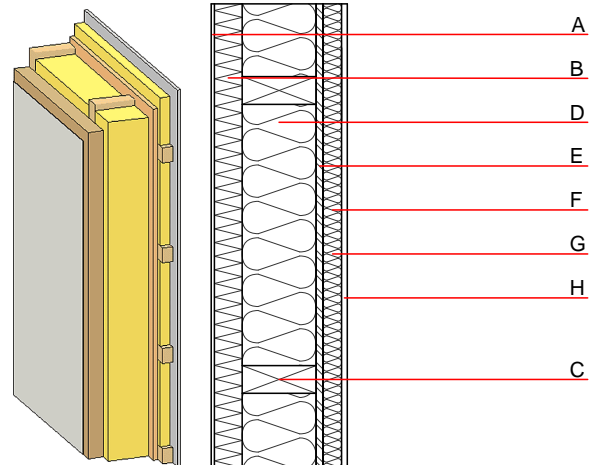
Performance rating

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 MA39
Classified by HFA

Thermal performance
U 0.17 W/(m²K)
Diffusion suitable
Calculated by HFA

Acoustic performance
 $R_w (C; C_{tr})$ 52(-3; 11) dB
 $L_{n,w} (C_i)$
vertical battens for the dry lining screwed onto the structural timber lead to an $R_w(C; C_{tr})=50(-3; 11) \text{ dB}$
Assessed by MA39

Mass per unit area m 63.50 kg/m²
Calculation based on gypsum plaster board type DF



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	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	160.0	construction timber (60/...; e=625)	0.120	50	450	1.600	D
D	160.0	Cellulose fibre [040; 50]	0.040	1	50	2.000	E
E	15.0	OSB (sealed with airtight tape)	0.130	200	600	1.700	D
F	40.0	spruce wood cross battens (a=400) or battens offset)	0.120	50	450	1.600	D
G	40.0	Cellulose fibre [040; 50]	0.040	1	50	2.000	E
H	12.5	gypsum plaster board type DF or	0.250	10	800	1.050	A2
H	12.5	gypsum fibre board	0.320	21	1000	1.100	A2

Sustainability rating (per m²)

Database ecoinvent

OI3_{Kon} 30.2
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		0.141	0.061	2,68E-6	0.021	
Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	100.960	659.969	760.928	473.146	34.612	507.759