

External wall - awropo03a-10

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	90

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

Thermal performance	U	0.17 W/(m ² K)
	Diffusion	suitable

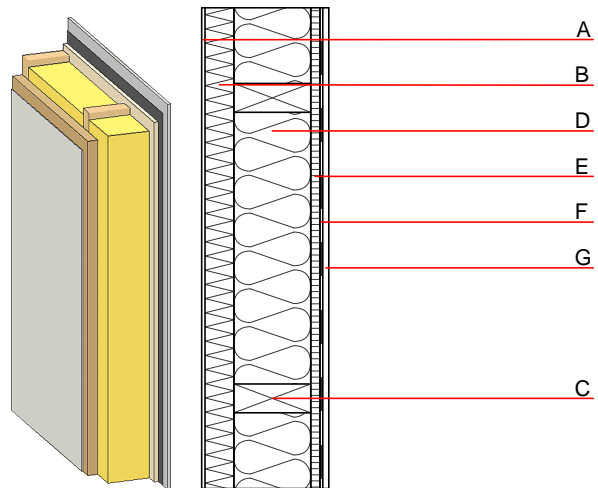
Calculated by HFA

Acoustic performance	$R_w (C; C_{tr})$	50(-3;-9) dB
	$L_{n,w} (C_i)$	

Assessed by MA39

Mass per unit area	m	72.50 kg/m ²
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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	100.0	wood-fibre insulation board WF-PT [045; 180]	0.045	5 - 7	180	2.100	E
C	160.0	construction timber (60/..; e=*)	0.120	50	450	1.600	D
D	160.0	mineral wool [040; ≥ 16 ; <1000°C]	0.040	1	16	1.030	A1
E	19.0	particleboard	0.130	50 - 100	700	1.700	D
F		vapour barrier $s_d \geq 2m$				1000	
G	12.5	gypsum plaster board type DF or	0.250	10	800	1.050	A2
G	12.5	gypsum fibre board	0.320	21	1000	1.100	A2

Sustainability rating (per m²)

Database ecoinvent

$OI3_{kon}$ 46.0

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		0.185	0.083	3,59E-6	0.030	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	85.701	729.792	815.493	712.540	72.938	785.477