

External wall - awropo09a-04

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	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	0.19 $\text{W}/(\text{m}^2\text{K})$
	Diffusion	suitable

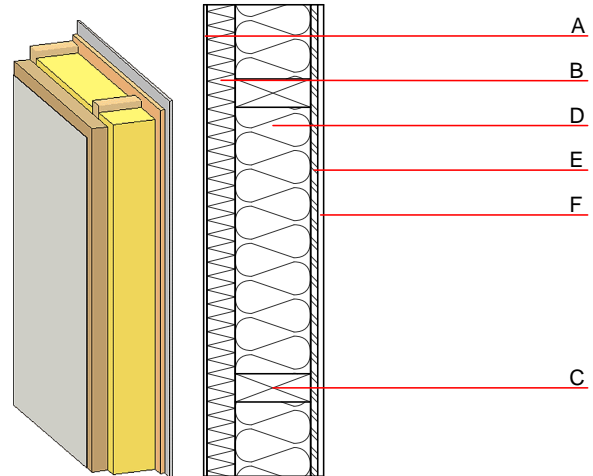
Calculated by HFA

Acoustic performance	R_w ($C; C_{tr}$)	51 (-3; 11) dB
	$L_{n,w}$ (C_i)	

Assessed by MA39

Mass per unit area	m	58.40 kg/m^2
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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	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	160.0	construction timber (60/..; e=625)	0.120	50	450	1.600	D
D	160.0	mineral wool [035; 50; <1000°C]	0.035	1	50	1.030	A1
E	15.0	OSB (sealed with airtight tape)	0.130	200	600	1.700	D
F	12.5	gypsum plaster board type DF or	0.250	10	800	1.050	A2
F	12.5	gypsum fibre board	0.320	21	1000	1.100	A2

Sustainability rating (per m^2)

Database ecoinvent

O13_{kon}	52.8
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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		0.215	0.097	4,12E-6	0.029	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	99.658	518.303	617.961	731.219	34.612	765.831