

External wall - awropo11a-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	30
maximum ceiling height = 3 m; maximum load $E_{d,fi} = 32,0 \text{ kN/m}$ Classified by HFA		

Thermal performance	U	0.19 W/(m ² K)
	Diffusion	suitable

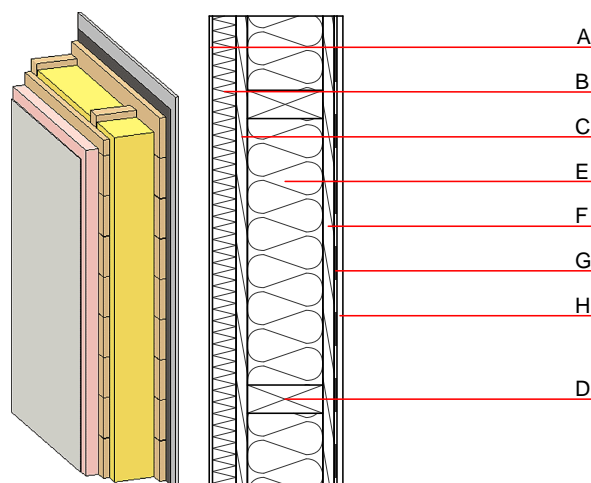
Calculated by HFA

Acoustic performance	$R_w (C; C_{tr})$	47(-2;-6) dB
	$L_{n,w} (C_i)$	

EPS-F with a dynamic stiffness of $s' = 20 \text{ MN/m}^3$.
 Assessed by MA39

Mass per unit area	m	52.80 kg/m ²
--------------------	---	-------------------------

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	
			λ	$\mu \text{ min - max}$	ρ	c	EN	
A	4.0	plaster	1.000	10 - 35	2000	1.130	A1	
B	50.0	Elasticized polystyrene FS	0.040	20 - 50	17	1.450	E	
C	25.0	planking spruce wood	0.120	50	450	1.600	D	
D	160.0	construction timber (60/160; e=*)	0.120	50	450	1.600	D	
E	160.0	mineral wool [040; ≥ 16 ; $< 1000^\circ\text{C}$]	0.040	1	16	1.030	A1	
F	25.0	planking spruce wood	0.120	50	450	1.600	D	
G		vapour barrier $s_d \geq 16 \text{ m}$			1000			
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} 20.9

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		0.102	0.042	1,82E-6	0.028	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	94.675	535.233	629.908	338.813	38.764	377.577