

## External wall - awropo01b-01

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 $E_{d,fi} = 50,0 \text{ kN/m}$ Classified by HFA		

Thermal performance	U	0.24 W/(m <sup>2</sup> K)
	Diffusion	suitable

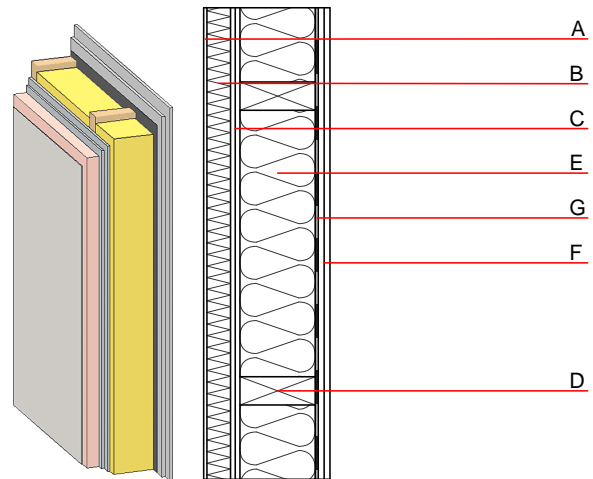
Calculated by HFA

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

Assessed by MA39

Mass per unit area	m	55.20 kg/m <sup>2</sup>
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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	
			$\lambda$	$\mu \text{ min} - \text{max}$	$\rho$	c	EN	
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	20.0	gypsum fibre board (2x10 mm)	0.320	21	1000	1.100	A2	
D	120.0	construction timber (60/-; e=*)	0.120	50	450	1.600	D	
E	120.0	mineral wool [040; $\geq 16$ ; $< 1000^\circ\text{C}$ ]	0.040	1	16	1.030	A1	
F		vapour barrier $s_d \geq 13\text{m}$			1000			
G	25.0	gypsum fibre board (2x12,5 mm) or	0.320	21	1000	1.100	A2	
G	25.0	gypsum plaster board type DF (2x12,5 mm)	0.250	10	800	1.050	A2	

### Sustainability rating (per m<sup>2</sup>)

#### Database ecoinvent

OI3<sub>Kon</sub> 27.1

Calculated by HFA

## Details of sustainability rating

### Database ecoinvent

Lifecycle (Phases)	GWP [kg CO <sub>2</sub> -e.]	AP [kg SO <sub>2</sub> -e.]	EP [kg PO <sub>4</sub> -e.]	ODP [kg R11-e.]	POCP [kg Ethen-e.]	
A1 - A3		0.086	0.036	2.18E-6	0.017	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	52.073	94.337	146.410	373.926	36.048	409.974