

## External wall - awropo18a-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 kN/m		
Classified by HFA		

Thermal performance	U	0.18 W/(m <sup>2</sup> K)
	Diffusion	suitable

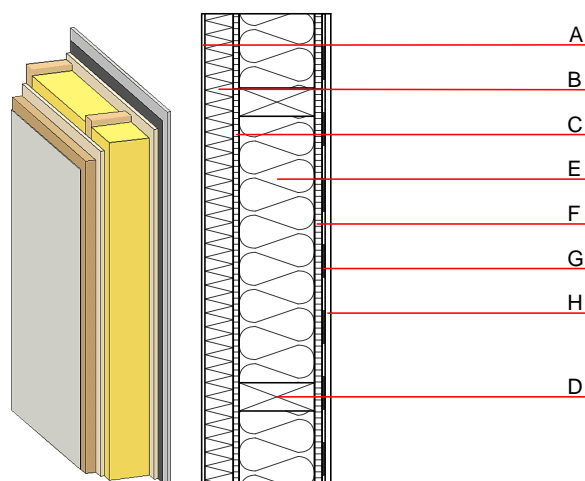
Calculated by HFA

Acoustic performance	$R_w$ ( $C$ ; $C_{tr}$ )	52(-3;-9) dB
	$L_{n,w}$ ( $C_i$ )	

Assessed by MA39

Mass per unit area	m	73.60 kg/m <sup>2</sup>
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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
			$\lambda$	$\mu$ min – max	$\rho$	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	12.0	particleboard	0.130	50 - 100	700	1.700	D
D	160.0	construction timber (60/-; e=*)	0.120	50	450	1.600	D
E	160.0	mineral wool [035; 50; <1000 °C]	0.035	1	50	1.030	A1
F	16.0	particleboard	0.130	50 - 100	700	1.700	D
G		vapour barrier $s_{d \geq 7m}$			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 m<sup>2</sup>)

#### Database ecoinvent

013<sub>Kon</sub> 55.6

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		0.218	0.098	4,03E-6	0.034	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	72.152	588.800	660.952	799.246	64.778	864.024