

## External wall - awropi31a-04

external wall, timber frame construction, not ventilated, with 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 kN/m		
Classified by HFA		

Thermal performance	U	0.13 W/(m <sup>2</sup> K)
	Diffusion	suitable

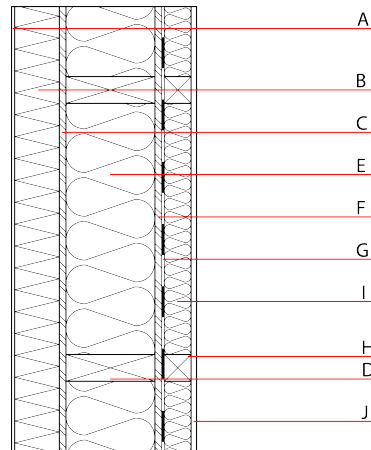
Calculated by HFA

Acoustic performance	$R_w$ (C;C <sub>tr</sub> )	51 (-4;-10) dB
	$L_{n,w}$ (C <sub>i</sub> )	

frequency range 50-3500: C50-3500 -11 dB; C<sub>tr</sub> 50-3500 -23 dB

Assessed by HFA

Mass per unit area	m	71.50 kg/m <sup>2</sup>
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### 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	100.0		0.040	1	100	1.030	A1
C	15.0	OSB	0.130	200	600	1.700	D
D	200.0	construction timber (60/...; e=625)	0.120	50	450	1.600	D
E	200.0	Wood fibre insulation [039; 45]	0.039	1 - 2	45	2.100	E
F	15.0	OSB	0.130	200	600	1.700	D
G		vapour barrier sd $\geq$ 14m					
H	27.0	resilient channel a=625 vertical					
I	27.0	Wood fibre insulation [039; 45]	0.039	1 - 2	45	2.100	E
J	12.5	gypsum plaster board type DF or	0.250	10	800	1.050	A2
J	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> 54.6

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		0.249	0.087	3,17E-6	0.076	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	124.274	645.075	769.349	679.201	44.578	723.779