

## External wall - awropi04a-05

external wall, timber frame construction, not ventilated, with dry lining, with rendering, other surface

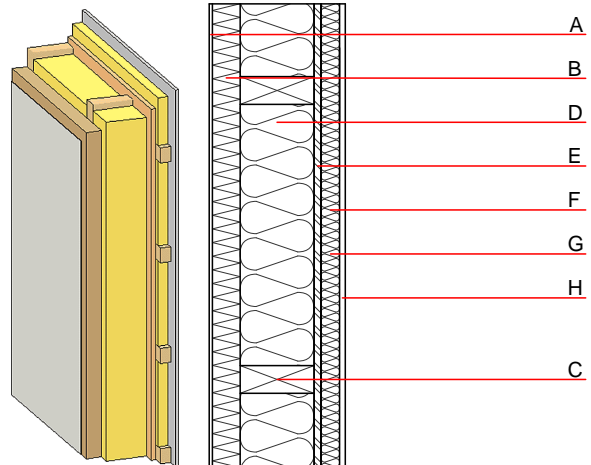
### Performance rating

**Fire protection performance**  
REI from inside 60  
REI from outside 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 0.13 W/(m<sup>2</sup>K)  
Diffusion suitable  
Calculated by HFA

**Acoustic performance**  
 $R_w (C; C_{tr})$  53(-3; 11) dB  
 $L_{n,w} (C_i)$   
vertical battens for the dry lining screwed onto the structural timber lead to an  $R_w(C; C_{tr})=51(-3; 11)$  dB  
Assessed by MA39

**Mass per unit area** m 65.50 kg/m<sup>2</sup>  
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
			$\lambda$	$\mu$ 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	200.0	construction timber (60/...; e=625)	0.120	50	450	1.600	D
D	200.0	mineral wool [040; $\geq 16$ ; <1000°C]	0.040	1	16	1.030	A1
E	15.0	OSB (sealed with airtight tape)	0.130	200	600	1.700	D
F	80.0	spruce wood cross battens (a=400) or battens offset)	0.120	50	450	1.600	D
G	80.0	mineral wool [040; $\geq 16$ ; <1000°C]	0.040	1	16	1.030	A1
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> 42.0

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		0.181	0.081	3,51E-6	0.028	
Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	111.888	631.638	743.526	625.432	34.612	660.045