

### External wall - awropo09a-06

external wall, timber frame construction, not ventilated, without dry lining, with rendering, other surface

#### Performance rating

<b>Fire protection performance</b>	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

<b>Thermal performance</b>	U	0.20 W/(m <sup>2</sup> K)
	Diffusion	suitable

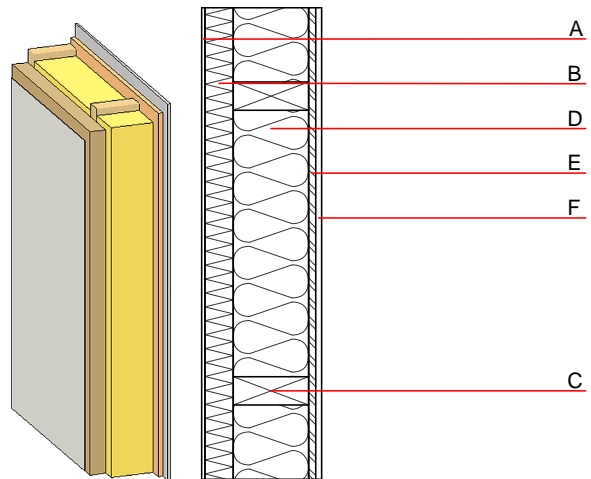
Calculated by HFA

<b>Acoustic performance</b>	$R_w (C; C_{tr})$	50(-3;-11) dB
	$L_{n,w} (C_i)$	

Assessed by MA39

<b>Mass per unit area</b>	m	59.90 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	160.0	construction timber (60/.,; e=625)	0.120	50	450	1.600	D
D	160.0	Cellulose fibre [040; 50]	0.040	1	50	2.000	E
E	15.0	OSB (sealed with airtight tape)	0.130	200	600	1.700	D
F	12.5	gypsum plaster board type DF or	0.250	10	800	1.050	A2
F	12.5	gypsum fibre board	0.320	21	1000	1.100	A2

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

##### Database ecoinvent

$O13_{kon}$	29.1
-------------	------

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		0.133	0.058	2,57E-6	0.019	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	92.775	599.400	692.175	454.178	34.612	488.791