

## External wall - awmopi01a-08

external wall, solid wood 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  $E_{d,fi} = 35,0 \text{ kN/m}$   
Classified by HFA

Thermal performance	U	0.14 W/(m <sup>2</sup> K)
	Diffusion	suitable

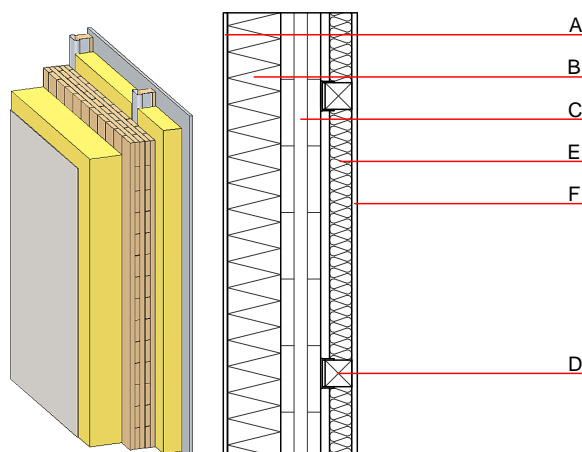
Calculated by HFA

Acoustic performance	$R_w (C; C_{tr})$	49 dB
	$L_{n,w} (C_i)$	

Assessed by TU-GRAZ

Mass per unit area	m	87.50 kg/m <sup>2</sup>
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Calculation based on gypsum plaster board type DF



Note: Attention: REI90 (from inside) in Germany possible with 2x12,5mm gypsum plaster board type DF/gypsum fibre board cross laminated timber 5-layers

### 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
			$\lambda$	$\mu \text{ min} - \text{max}$	$\rho$	c	
A	7.0	plaster	1.000	10 - 35	2000	1.130	A1
B	180.0	mineral wool MW-PT [035; 130] ETICS insulation panel	0.035	1	130	1.030	A1
C	90.0	cross laminated timber	0.130	50	500	1.600	D
D	70.0	spruce wood battens (60/60) mounted on resilient clips; e=660	0.120	50	450	1.600	D
E	50.0	mineral wool [040; $\geq 16$ ; $< 1000^\circ\text{C}$ ]	0.040	1	16	1.030	A1
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

OL3 <sub>Kon</sub>	81.4
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calculated with gypsum plaster fire protection board (GKF/DF); this data includes 3-, 5-, and 7-ply cross laminated timber elements;  
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		0.385	0.122	4,02E-6	0.144	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	52.934	628.569	681.503	899.795	15.137	914.932