

## External wall - awmopo04a-02

external wall, solid wood construction, not ventilated, without dry lining, with rendering, wooden surface

### Performance rating

**Fire protection performance**  
 REI from inside 30  
 REI from outside 60  
 maximum ceiling height = 3 m; maximum load  $E_{d,fi} = 35 \text{ kN/m}$   
 Classified by HFA

#### Germany

REI 30 (from inside/from outside)  
 Load  $E_{d,fi}$  according to the German certification document  
 Corresponding proof: manufacturer-specific

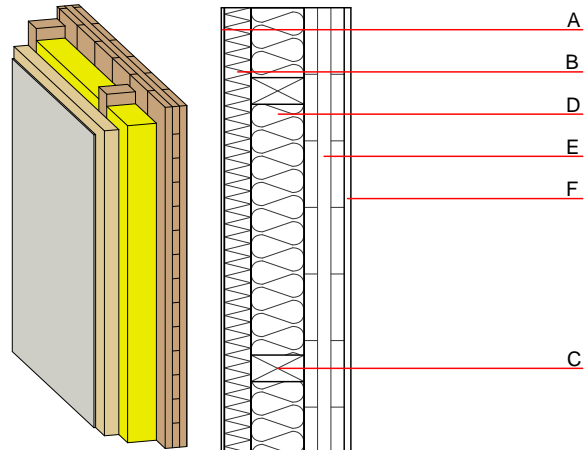
**Thermal performance**  
 U 0.21 W/(m<sup>2</sup>K)  
 Diffusion suitable

Calculated by TUM

**Acoustic performance**  
 $R_w (C; C_{tr})$  43(-1;-6) dB  
 $L_{n,w} (C_i)$

Assessed by Müller-BBM

**Mass per unit area** m 81.10 kg/m<sup>2</sup>



### 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	60.0	wood-fibre insulation board [046; 200]	0.046	3 - 7	200	2.100	E
C	120.0	construction timber (60/...; e=625)	0.120	50	450	1.600	D
D	120.0	Wood fibre insulation [039; 45]	0.039	1 - 2	45	2.100	E
E	90.0	cross laminated timber	0.130	50	500	1.600	D
F		without gypsum board lining					

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

#### Database ecoinvent

OI3<sub>Kon</sub> 34.6  
 Calculated by HFA

#### Database GaBi (ÖKOBAUDAT)

Built-in renewable materials kg 69.490  
 Biogenic carbon in kg CO<sub>2</sub>-e. kg CO<sub>2</sub> 100.000  
 Energy use of Primary Energy MJ 985.250  
 Share of renewable PE % 40.69

Calculated by TUM

## 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		0.177	0.076	3,26E-6	0.044	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	73.196	976.017	1049.214	605.128	41.130	646.258

### Database GaBi (ÖKOBAUDAT)

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		0.113	0.024	2,56E-6	0.024	
C1 - C4		0.002	0.000	1,23E-7	0.000	
A1 - C4		0.117	0.025	2,69E-6	0.023	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	399.332	1269.904	1667.897	562.084	37.316	598.950
C1 - C4	1.543	-1269.880	-1268.172	22.291	-29.859	-5.360
A1 - C4	400.875	0.024	399.928	584.375	7.457	596.960