

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

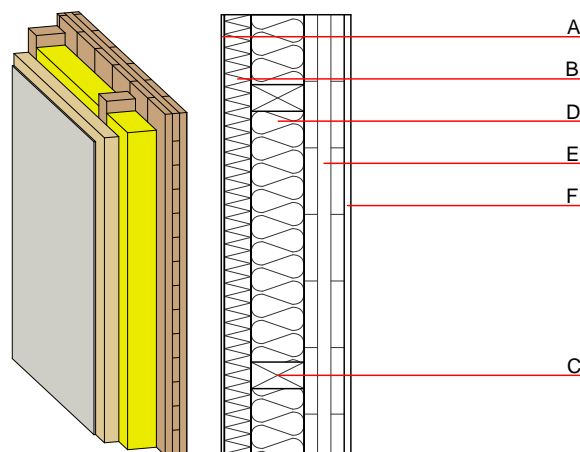
Thermal performance
 U 0.21 W/(m²K)
 Diffusion suitable

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/m²



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
			λ	$\mu \text{ min} - \text{max}$	ρ	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 m²)

Database ecoinvent

OI3_{Kon} 34.6

Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials	kg	69.490
Biogenic carbon in kg CO ₂ -e.	kg CO ₂	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 ₂ -e.]	AP [kg SO ₂ -e.]	EP [kg PO ₄ -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 ₂ -e.]	AP [kg SO ₂ -e.]	EP [kg PO ₄ -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