

External wall - awmopo04a-00

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

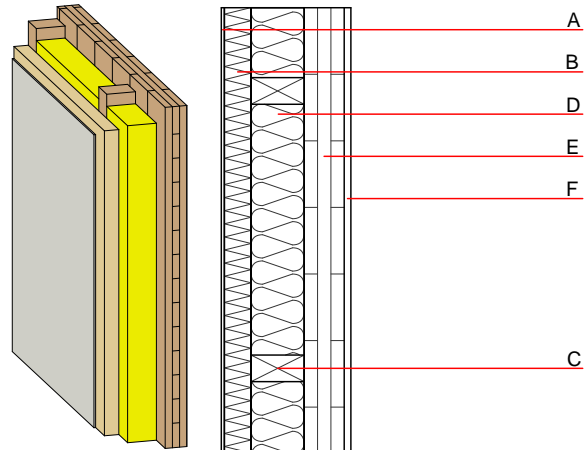
Thermal performance U 0.21 W/(m²K)
 Diffusion suitable

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 77.40 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	μ min - 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	mineral wool [040; 11; <1000°C]	0.040	1	11	1.030	A1
E	90.0	cross laminated timber	0.130	50	500	1.600	D
F		without gypsum board lining					

Sustainability rating (per m²)

Database ecoinvent

$OI3_{kon}$ 34.8
 Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials kg 63.530
Biogenic carbon in kg CO₂e. kg CO₂ 91.460
Energy use of Primary Energy MJ 737.150
Share of renewable PE % 38.23

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		0.176	0.076	3,20E-6	0.044	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	65.680	887.062	952.742	587.993	32.727	620.721

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		0.110	0.020	2,64E-6	0.018	
C1 - C4		0.002	0.001	1,23E-7	0.000	
A1 - C4		0.114	0.022	2,76E-6	0.018	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	280.880	996.406	1275.946	439.550	23.450	462.550
C1 - C4	0.907	-995.738	-994.667	15.179	-10.672	6.720
A1 - C4	281.791	0.668	281.488	455.355	12.778	473.260