

External wall - awmopi01a-10

external wall, solid wood construction, not ventilated, with dry lining, with rendering, other surface

Performance rating

Fire protection performance **REI from inside** 90
 REI from outside 90
 maximum ceiling height = 3 m; maximum load $E_{d,fi} = 35,0 \text{ kN/m}$
 Classified by HFA

Germany

REI60 (from inside;/from outside); Attention: REI 90 (from inside) in Germany possible with 2x12,5mm gypsum plaster board type DF/gypsum fibre board
 Load $E_{d,fi}$ according to the German certification document
 Corresponding proof: manufacturer-specific

Thermal performance **U** 0.21 $\text{W}/(\text{m}^2\text{K})$
 Diffusion suitable

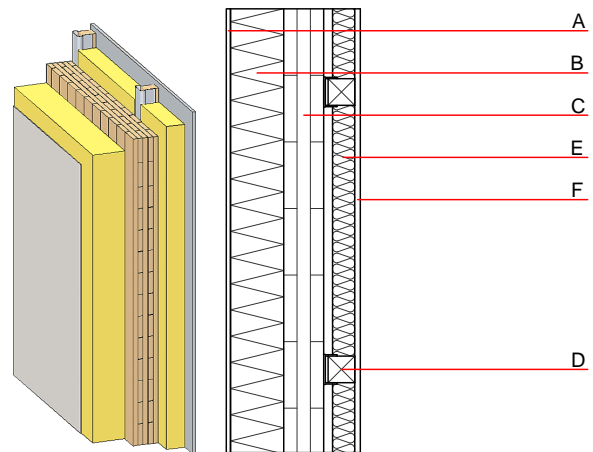
Calculated by TUM

Acoustic performance $R_w (C;C_{tr})$ 50(-3;-9) dB
 $L_{n,w} (C_i)$

Assessed by Müller-BBM

Mass per unit area **m** 94.70 kg/m^2

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

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	120.0	wood-fibre insulation board [0,045; R=160] ETICS insulation panel	0.045	5 - 7	160	2.100	E
C	100.0	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; 11; <1000°C]	0.040	1	11	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^2)

Database ecoinvent

$OI3_{Kon}$ 38.5

Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials kg 79.430
Biogenic carbon in $\text{kg CO}_2\text{-e}$. kg CO_2 114.240
Energy use of Primary Energy MJ 936.080
Share of renewable PE % 38.56

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		0.189	0.081	3,62E-6	0.047	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	63.891	947.654	1011.545	657.005	38.164	695.169

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		0.118	0.024	2,68E-6	0.022	
C1 - C4		0.003	0.001	1,49E-7	0.000	
A1 - C4		0.124	0.026	2,84E-6	0.022	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	359.263	1188.191	1545.244	547.552	32.654	579.660
C1 - C4	1.311	-1182.747	-1181.271	22.049	-21.224	3.030
A1 - C4	360.956	5.703	364.817	575.125	11.482	591.640