

Designation: awmopi01a-09 8/2/23 Last updated:

Holzforschung Austria Source:

Editor: HFA, PLB

External wall - awmopi01 a-09

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

Performance rating

REI from inside Fire protection 90 performance RFI from outside 90

maximum ceiling height = 3 m; maximum load $E_{d,fi}$ = 35,0 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

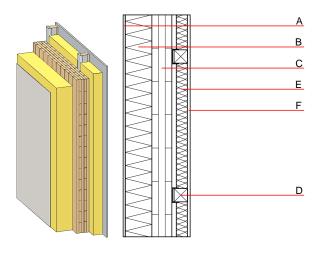
Corresponding proof: manufacturer-specific

Thermal performance Calculated by TUM	U Diffusion	0.15 W/(m ² K) suitable	
Acoustic performance	R _w (C;C _{tr}) L _{n,w} (C _l)	51(-3;-9) dB	

Rw=49dB if a lightweight ETICS insulation panel (ρ approx. 90kg/m³) is applied. Assessed by Müller-BBM

Mass per unit area 103.40 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
			λ	μ min – max	ρ	С	EN
Α	7.0	plaster	1.000	10 - 35	2000	1.130	A1
В	180.0	mineral wool MW-PT [040; 155] ETICS insulation panel	0.040	1	155	1.030	A1
С	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
Е	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 m²)

Database ecoinvent		Database GaBi (ÖKOBAUDAT)			
Ol3 _{Kon} 97.2 Calculated by HFA		Built-in renewable materials kg 51.830 Biogenic carbon in kg CO ₂ -e. kg CO ₂ 74.410 Energy use of Primary Energy MJ 944.330			
		Share of renewable PE	%	26.86	
		Calculated by TUM			



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Details of sustainability rating

Database ecoinvent

Lifecycle	GWP	AP	EP	ODP	POCP	
(Phases)	[kg CO ₂ -e.]	[kg SO ₂ -e.]	[kg PO ₄ -e.]	[kg R11-e.]	[kg Ethen-e.]	
A1 - A3		0.463	0.145	4,63E-6	0.177	
Lifecycle	PERE	PERM	PERT	PENRE	PENRM	PENRT
(Phases)	[MJ]	[MJ]	[MJ]	[MJ]	[MJ]	[MJ]
A1 - A3	60.670	731.169	791.839	1058.762	17.714	1076.476

Database GaBi (ÖKOBAUDAT)

Lifecycle	GWP	AP	EP	ODP	POCP
(Phases)	[kg CO ₂ -e.]	[kg SO ₂ -e.]	[kg PO ₄ -e.]	[kg R11-e.]	[kg Ethen-e.]
A1 - A3		0.271	0.041	3,50E-6	0.024
C1 - C4		0.006	0.008	1,55E-7	0.001
A1 - C4		0.280	0.050	3,66E-6	0.025

Lifecycle	PERE	PERM	PERT	PENRE	PENRM	PENRT
(Phases)	[MJ]	[MJ]	[MJ]	[MJ]	[MJ]	[MJ]
A1 - A3	252.382	889.053	1139.225	664.153	45.452	709.060
C1 - C4	0.875	-879.492	-878.453	19.965	0.000	22.170
A1 - C4	253.645	9.820	261.623	690.680	45.504	741.220