dataholz.eu

Designation: awmopo04a-03
Last updated: 8/2/23
Source: Holzforschung Austria
Editor: HFA, PLB

External wall - awmopo04a-03

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

Performance rating

Fire protection performance	**REI from inside**	90
	REI from outside	60

maximum ceiling height = 3 m; maximum load $E_{d,fi}$ = 35 kN/m
Classified by HFA

Germany

REI 90 from inside REI 60 from outside

Load $E_{d,fi}$ according to the German certification document

Corresponding proof: manufacturer-specific

Thermal performance	**U**	0.17 W/(m²K)
	Diffusion	suitable

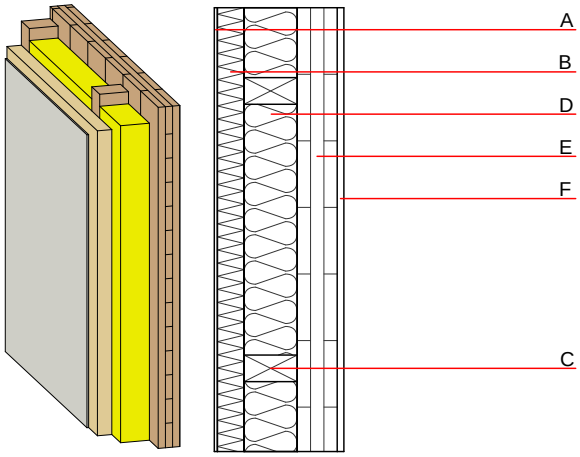
Calculated by TUM

Acoustic performance	**R_w ($C;C_{tr}$)**	46(-2;-7) dB
	$L_{n,w}$ (C_I)	

Assessed by Müller-BBM

Mass per unit area	**m**	98.40 kg/m²

Calculation based on gypsum plaster board type DF



Note: F: or 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	c	EN
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	160.0	construction timber (60/...; e=625)	0.120	50	450	1.600	D
D	160.0	Wood fibre insulation [039; 45]	0.039	1 - 2	45	2.100	E
E	100.0	cross laminated timber	0.130	50	500	1.600	D
F	15.0	gypsum plaster board type DF	0.250	10	800	1.050	A2

Sustainability rating (per m²)

Database ecoinvent

$OI3_{Kon}$	40.6

Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials	**kg**	67.380
Biogenic carbon in kg CO_2-e.	**kg CO_2**	97.040
Energy use of Primary Energy	**MJ**	844.520
Share of renewable PE	**%**	36.22

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		0.202	0.088	3,91E-6	0.050	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	87.123	1105.515	1192.638	714.837	45.649	760.486

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		0.129	0.024	2,86E-6	0.020	
C1 - C4		0.004	0.002	1,58E-7	0.000	
A1 - C4		0.136	0.027	3,03E-6	0.020	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	304.386	1067.632	1370.753	511.802	26.733	538.080
C1 - C4	0.999	-1061.568	-1060.405	19.421	-10.692	10.940
A1 - C4	305.868	6.323	311.294	538.649	16.105	559.880