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Designation: awmopo04a-04
Last updated: 8/2/23
Source: Holzforschung Austria
Editor: HFA, PLB

External wall - awmopo04a-04

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

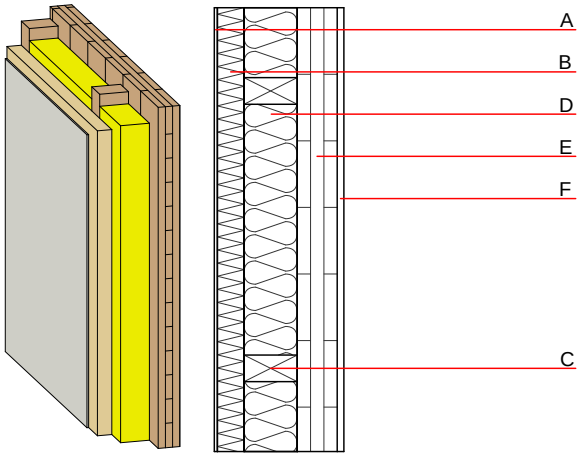
Calculated by TUM

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**	93.50 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	mineral wool [040; 11; <1000°C]	0.040	1	11	1.030	A1
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

$OI3_{Kon}$	40.9

Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials	**kg**	76.780
Biogenic carbon in kg CO_2-e.	**kg CO_2**	108.820
Energy use of Primary Energy	**MJ**	791.160
Share of renewable PE	**%**	38.79

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		0.201	0.087	3,84E-6	0.049	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	77.102	986.907	1064.009	691.990	34.445	726.435

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		0.098	0.020	2,68E-6	0.018	
C1 - C4		0.006	0.006	1,74E-7	0.001	
A1 - C4		0.107	0.026	2,86E-6	0.019	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	305.454	1186.247	1490.468	456.062	19.638	475.250
C1 - C4	0.995	-1061.568	-1060.409	21.576	-10.692	13.090
A1 - C4	306.927	124.938	431.000	484.230	9.010	498.370