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Designation: Last updated: Source: Editor:

awmopo04a-05 8/2/23 Holzforschung Austria HFA, PLB

External wall - awmopo04a-05

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

Performance rating

Fire protection performance	REI from inside REI from outside	90 60							
maximum ceiling height = Classified by HFA	3 m; maximum load E _{d,}	_{fi} = 35 kN/m							
Germany									
REI 90 from inside REI 60 from outside									
Load E _{d,fi} according to the	$E_{d,fi}$ according to the German certification document								
Corresponding proof: man	ufacturer-specific								
Thermal performance	U Diffusion	0.17 W∕(m ² K) suitable							
Calculated by TUM									
Acoustic performance	R _w (C;C _{tr}) L _{n,w} (C _l)	46(-2;-7) dB							
Assessed by Müller-BBM									
Mass per unit area	m	99.10 kg/m ²							



Calculation based on gypsum plaster board type DF

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
А	7.0	plaster	1.000	10 - 35	2000	1.130	A1
В	60.0	wood-fibre insulation board [046; 200]	0.046	3 - 7	200	2.100	E
С	160.0	construction timber (60/; e=625)	0.120	50	450	1.600	D
D	160.0	Cellulose fibre [040; 50]	0.040	1	50	2.000	E
Е	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} Calculated by HFA 39.3

Database GaBi (ÖKOBAUDAT)

Note: F: or gypsum fibre board

Built-in renewable materials	kg	75.330
Biogenic carbon in kg CO ₂ -e.	kg CO ₂	108.430
Energy use of Primary Energy	MJ	1175.320
Share of renewable PE	%	39.53
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		0.204	0.087	3,76E-6	0.049	
Lifecycle	PERE	PERM	PERT	PENRE	PENRM	PENRT
(Phases)	[M]	[M]	[M]	[LM]	[MJ]	[MJ]
A1 - A3	82.100	1068.004	1150.104	672.922	34.445	707.367

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		0.133	0.029	2,76E-6	0.028	
C1 - C4		0.004	0.001	1,59E-7	0.000	
A1 - C4		0.140	0.030	2,93E-6	0.028	
Lifecycle	PERE	PERM	PERT	PENRE	PENRM	PENRT
(Phases)	[MJ]	[M]	[LM]	[LM]	[MJ]	[M]
A1 - A3	462.322	1432.297	1893.354	675.179	45.220	719.950
C1 - C4	1.846	-1427.091	-1425.080	28.903	-36.274	-5.160
A1 - C4	464.647	5.465	469.215	710.675	9.010	724.810