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Designation: Last updated: Source: Editor: awropo22b-14 8/2/23 Holzforschung Austria HFA, SP

External wall - awropo22b-14

external wall, timber frame construction, not ventilated, without dry lining, with rendering, other surface

Performance rating

e protection rformance uximum ceiling height = assified by HFA assified by HFA	REI from inside REI from outside = 3 m; maximum load E _{d,f}	60 60 = 32 kN∕m
Germany F60 (from inside/from ou Load E _{d,fi} according to the Corresponding proof: mar	itside) 9 German certification doo nufacturer-specific	ument
Thermal performance	U Diffusion	0.17 W∕(m ² K) suitable
Acoustic performance Assessed by Müller-BBM	R _w (C;C _{tr}) L _{n,w} (C _I)	52(-2;-8) dB
Mass per unit area	m	76.80 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 [055; 200]	0.055	5 - 7	200	2.100	E
С	15.0	fibreboard (MDF)	0.140	11	600	1.700	D
D	200.0	construction timber (60/; e=625)	0.120	50	450	1.600	D
Е	200.0	Wood fibre insulation [039; 45]	0.039	1 - 2	45	2.100	E
F		vapour barrier sd≥ 3m			1000		
G	15.0	gypsum fibre board	0.320	21	1000	1.100	A2
Н	12.5	gypsum fibre board or	0.320	21	1000	1.100	A2
Н	12.5	gypsum plaster board type DF	0.250	10	800	1.050	A2

Sustainability rating (per m²)

Database ecoinvent		Database GaBi (ÖKOBAUDAT)				
OI3_{Kon} Calculated by HFA	36.6	Built-in renewable materials Biogenic carbon in kg CO ₂ -e. Energy use of Primary Energy Share of renewable PE	kg kg CO ₂ MJ %	44.270 62.850 1053.500 36.27		
		Calculated by TUM				

dataholz.eu – Catalogue of timber building materials, components and component connections reviewed to consider thermal, acoustic, fire performance requirements and ecological drivers for timber construction released by accredited testing institutes. These datasheets will generally be accepted as proofs of compliance by building authorities.

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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		0.155	0.066	3,14E-6	0.021	
Lifecycle	PERE	PERM	PERT	PENRE	PENRM	PENRT
(Phases)	[MJ]	[M]	[LM]	[LM]	[MJ]	[LM]
A1 - A3	138.632	629.749	768.381	572.840	53.779	626.619

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		0.117	0.026	1,36E-6	0.026	
C1 - C4		0.004	0.001	9,01E-8	0.000	
A1 - C4		0.125	0.028	1,46E-6	0.026	
Lifecycle	PERE	PERM	PERT	PENRE	PENRM	PENRT
(Phases)	[LM]	[LM]	[M]	[LM]	[MJ]	[M]
A1 - A3	379.532	953.270	1333.870	632.433	68.172	700.700
C1 - C4	1.751	-943.715	-941.798	27.103	-57.690	-28.380
A1 - C4	382.141	10.074	393.651	671.358	10.598	687.630