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Designation: Last updated: Source: Editor:

awrhhi12a-01 8/2/23 Holzforschung Austria HFA, PLB

External wall - awrhhi12a-01

external wall, timber frame construction, ventilated, with dry lining, with cladding, other surface

Performance rating

Fire protection performance maximum ceiling height Classified by HFA	REI from inside REI from outside = 3 m; maximum load E _{d,i}	30 30 ₁ = 32 kN∕m	
Germany F30 (from inside/from of Load E _{d,fi} according to th Corresponding proof: ma	utside) e German certification do nufacturer-specific	cument	
Thermal performance	U Diffusion	0.20 W∕(m ² K) suitable	
Acoustic performance Assessed by Müller-BBM	R _w (C;C _{tr}) L _{n,w} (C _l)	52(-1;-6) dB	
Mass per unit area	m	68.30 kg/m ²	



Register of building materials used for this application, cross-section (from outside to inside, dimensions in mm)

	Thickness	Building material	Thermal per	Reaction to fire			
			λ	µ min – max	ρ	с	EN
А	24.0	larch wood external wall cladding	0.155	150	600	1.600	D
В	30.0	larch wood battens offset (30/50; 30/80) - ventilation	0.155	150	600	1.600	D
С		wind barrier			1000		
D	15.0	fibreboard (MDF)	0.140	11	600	1.700	D
Е	160.0	construction timber (60/; e=625)	0.120	50	450	1.600	D
F	160.0	Cellulose fibre [040; 50]	0.040	1	50	2.000	E
G	15.0	OSB	0.130	200	600	1.700	D
Н	40.0	spruce wood cross battens (a=400) \ge 40mm	0.120	50	450	1.600	D
T	40.0	Cellulose fibre [040; 50]	0.040	1	50	2.000	E
J	12.0	OSB	0.130	200	600	1.700	D
Κ	12.5	gypsum plaster board type A	0.250	4 - 10	680	1.050	A2

Sustainability rating (per m²)

Database ecoinvent		Database GaBi (ÖKOBAUDAT)				
OI3 _{Kon}	25.0	Built-in renewable materials	kg	64.700		
Calculated by TUM		Biogenic carbon in kg CO ₂ -e.	kg CO ₂	92.110		
		Energy use of Primary Energy Share of renewable PE	MJ %	675.640 32.71		

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		0.151	0.056	2,09E-6	0.008	
Lifecycle	PERE	PERM	PERT	PENRE	PENRM	PENRT
(Phases)	[MJ]	[M]	[LM]	[LM]	[MJ]	[MJ]
A1 - A3	128.639	902.890	1031.529	432.720	48.370	481.090

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		0.091	0.017	1,50E-6	0.030	
C1 - C4		0.006	0.007	1,23E-7	0.001	
A1 - C4		0.098	0.025	1,63E-6	0.031	
Lifecycle	PERE	PERM	PERT	PENRE	PENRM	PENRT
(Phases)	[LM]	[M]	[MJ]	[LM]	[MJ]	[LM]
A1 - A3	219.544	1044.809	1264.250	433.974	27.399	461.450
C1 - C4	1.109	-878.964	-877.857	15.408	-26.457	-11.050
A1 - C4	221.033	166.104	387.032	454.612	0.994	455.680