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Designation: Last updated: Source: Editor: awrhhi11a-02 8/2/23 Holzforschung Austria HFA, PLB

External wall - awrhhi11a-02

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

Performance rating

Fire protection performance	REI from inside REI from outside	30 30	
maximum ceiling height = Classified by HFA	3 m; maximum load E _d	_{fi} = 19,2 kN/m	
Germany			
F30 (from inside/from ou	tside)		
Load $E_{d,fi}$ according to the	German certification do	cument	
Corresponding proof: man	ufacturer-specific		
Thermal performance	U Diffusion	0.21 W∕(m ² K) suitable	_
Calculated by TUM			
Acoustic performance	R _w (C;C _{tr}) L _{n,w} (C _l)	58(-1;-6) dB	_
Assessed by Müller-BBM			
Mass per unit area	m	63.30 kg∕m ²	-



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

	Thickness	Building material Thermal performance				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	spruce wood battens offset (30/50; 30/80) - ventilation	0.120	50	450	1.600	D
С		wind barrier			1000		
D	12.5	gypsum fibre board	0.320	21	1000	1.100	A2
Е	160.0	construction timber (60/; e=625)	0.120	50	450	1.600	D
F	160.0	Wood fibre insulation [039; 45]	0.039	1 - 2	45	2.100	E
G		vapour barrier sd≥ 5m			1000		
Н	12.5	gypsum plaster board type DF	0.250	10	800	1.050	A2
I	40.0	spruce wood cross battens (a=400) \ge 40mm	0.120	50	450	1.600	D
J	40.0	Wood fibre insulation [039; 45] ≥40mm	0.039	1 - 2	45	2.100	E
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}	20.9	Built-in renewable materials	kg	35.480	
Calculated by HEA		Biogenic carbon in kg CO ₂ -e.	kg CO ₂	51.530	
		Energy use of Primary Energy Share of renewable PE	MJ %	877.520 39.01	
		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		0.101	0.042	2,12E-6	0.005	
Lifecycle	PERE	PERM	PERT	PENRE	PENRM	PENRT
(Phases)	[LM]	[MJ]	[M]	[M]	[MJ]	[LM]
A1 - A3	90.561	559.716	650.277	370.425	24.700	395.125

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		0.099	0.021	6,52E-7	0.020	
C1 - C4		0.003	0.001	1,24E-7	0.000	
A1 - C4		0.107	0.023	7,98E-7	0.021	
Lifecycle	PERE	PERM	PERT	PENRE	PENRM	PENRT
(Phases)	[MJ]	[LM]	[M]	[LM]	[MJ]	[M]
A1 - A3	339.644	936.939	1276.135	492.446	71.728	564.250
C1 - C4	1.566	-921.512	-919.946	27.038	-34.682	-7.640
A1 - C4	342.348	16.204	358.104	535.172	37.202	572.450