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Designation: Last updated: Source: Editor: awrhho07a-13 8/2/23 Holzforschung Austria HFA, SP

External wall - awrhho07a-13

external wall, timber frame construction, ventilated, without dry lining, with cladding, other surface

Performance rating

Fire protection performance	REI from inside REI from outside	60 30					
maximum ceiling height = 3 m; maximum load $E_{d,fi}$ = 32,0 kN/m Classified by HFA Classified by HFA							
Germany							
F60 (from inside/from outside)							
Load $E_{d,fi}$ according to the C	German certification docu	iment					
Corresponding proof: manufacturer-specific							
Thermal performance	U Diffusion	0.14 W∕(m ² K) suitable					
Calculated by TUM							
Acoustic performance	R _w (C;C _{tr}) L _{n,w} (C _l)	48(-2;-8) dB					
Assessed by Müller-BBM							
Mass per unit area	m	62.20 kg/m ²					
Calculation based on averu	m plactor board type DE						



Note: According to OIB-RL 2 (Austria) is for ventilated and insulated facades (from building class 2) an insulation material with minimum Euroclass D required.

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

	Thickness	Building material	Thermal pe	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 - ventilation	0.120	50	450	1.600	D
С	30.0	spruce wood cross battens	0.120	50	450	1.600	D
D		wind barrier			1000		
Е	60.0	wood-fibre insulation board [045; 140]	0.045	2 - 5	140	2.100	E
F	240.0	construction timber (60/; e=625)	0.120	50	450	1.600	D
G	240.0	mineral wool [040; 30; ≥1000°C]	0.040	1	30	1.030	A1
Н	15.0	OSB (sealed with airtight tape)	0.130	200	600	1.700	D
I	12.5	gypsum plaster board type DF or	0.250	10	800	1.050	A2
I	12.5	gypsum fibre board	0.320	21	1000	1.100	A2

Sustainability rating (per m²)

Database ecoinvent		Database GaBi (ÖKOBAUDAT)			
OI3 _{Kon}	32.0	Built-in renewable materials Biogenic carbon in kg CO ₂ -e.	kg kg CO ₂ MJ %	48.110 70.640 687.370 33.06	
Calculated by HFA		Energy use of Primary Energy Share of renewable PE			
		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		0.167	0.061	2,13E-6	0.055	
Lifecycle	PERE	PERM	PERT	PENRE	PENRM	PENRT
(Phases)	[MJ]	[MJ]	[LM]	[LM]	[MJ]	[LM]
A1 - A3	130.222	719.643	849.864	457.746	29.328	487.074

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		0.126	0.021	9,69E-7	0.024	
C1 - C4		0.002	0.003	8,53E-8	0.000	
A1 - C4		0.131	0.024	1,06E-6	0.024	
Lifecycle	PERE	PERM	PERT	PENRE	PENRM	PENRT
(Phases)	[LM]	[MJ]	[LM]	[LM]	[M]	[MJ]
A1 - A3	225.731	750.784	976.573	438.547	55.156	493.810
C1 - C4	1.134	-744.378	-743.245	15.090	-17.052	-1.960
A1 - C4	227.253	6.664	233.975	460.118	38.156	498.380