dataholz.eu

Designation: Last updated: Source: Editor: awrhhi04a-18 8/2/23 Holzforschung Austria HFA, SP

External wall - awrhhi04a-18

external wall, timber frame construction, ventilated, with 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} = 19,2 kN∕m Classified by HFA Classified by HFA					
Germany					
F60 (from inside)/F30 (from	n outside)				
Load $E_{d,fi}$ according to the C	erman certification docume	ent			
Corresponding proof: manua	facturer-specific				
Thermal performance	U	0.15 W/(m ² K)			
	Diffusion	suitable			
Calculated by TUM	Diffusion	suitable			
Calculated by TUM ————————————————————————————————————	Diffusion R _w (C;C _{tr}) L _{n,w} (C _i)	suitable 52(-3;-10) dB			
Calculated by TUM Acoustic performance Assessed by Müller-BBM	Diffusion R _w (C;C _{tr}) L _{n,w} (C ₁)	suitable 52(-3;-10) dB			



Note: dry lining ≥ 40 mm

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 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	spruce wood battens offset (30/50; 30/80) - ventilation	0.120	50	450	1.600	D
С	15.0	fibreboard (MDF)	0.140	11	600	1.700	D
D	240.0	construction timber (60/; e=625)	0.120	50	450	1.600	D
Е	240.0	Wood fibre insulation [039; 45]	0.039	1 - 2	45	2.100	E
F	15.0	OSB	0.130	200	600	1.700	D
G	40.0	spruce wood cross battens (a=400) \ge 40mm	0.120	50	450	1.600	D
Н	40.0	Wood fibre insulation [039; 45]	0.039	1 - 2	45	2.100	E
I.	12.5	gypsum plaster board type DF or	0.250	10	800	1.050	A2
Ι	12.5	gypsum fibre board	0.320	21	1000	1.100	A2

Sustainability rating (per m²)

Database ecoinvent		Database GaBi (ÖKOBAUDAT)			
Ol3 _{Kon}	20.9	Built-in renewable materials	kg	63.310	
Calculated by HFA	Biog	Biogenic carbon in kg CO ₂ -e.	kg CO ₂	91.690	
		Energy use of Primary Energy	MJ	1311.070	
		Share of renewable PE	%	38.69	
		Calculated by TUM			

dataholz.eu

Designation: Last updated: Source: Editor: awrhhi04a-18 8/2/23 Holzforschung Austria HFA, SP

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		0.121	0.053	2,09E-6	0.026	
Lifecycle	PERE	PERM	PERT	PENRE	PENRM	PENRT
(Phases)	[MJ]	[M]	[LM]	[M]	[MJ]	[LM]
A1 - A3	149.991	974.129	1124.120	432.379	48.331	480.710

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		0.147	0.032	1,73E-6	0.040	
C1 - C4		0.002	0.000	1,11E-7	0.000	
A1 - C4		0.151	0.033	1,84E-6	0.041	
Lifecycle	PERE	PERM	PERT	PENRE	PENRM	PENRT
(Phases)	[MJ]	[M]	[LM]	[LM]	[MJ]	[M]
A1 - A3	504.487	1501.279	2005.926	767.817	69.776	837.700
C1 - C4	2.450	-1497.016	-1494.567	30.708	-68.834	-38.130
A1 - C4	507.317	4.521	511.998	803.754	0.994	804.860