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External wall - awrhho01a-14

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

Performance rating

Fire protection performance	REI from inside	60
	REI from outside	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)/F30 (from outside)

Load $E_{d,fi}$ according to the German certification document

Corresponding proof: manufacturer-specific
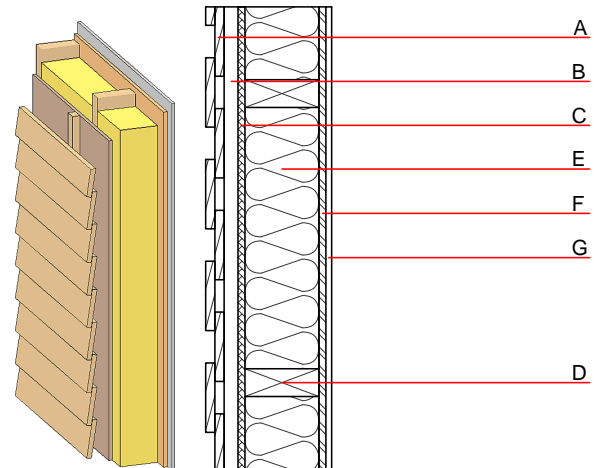
Thermal performance	U	0.21 W/(m^{2}K)
	Diffusion	suitable

Calculated by TUM

Acoustic performance	R_w (C;C$_{tr}$)	48(-2;-8) dB
	$L_{n,w}$ (C$_I$)	

Assessed by Müller-BBM

Mass per unit area	m	61.00 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	c	EN
A	24.0	larch wood external wall cladding	0.155	150	600	1.600	D
B	30.0	spruce wood battens offset (30/50; 30/80) - ventilation	0.120	50	450	1.600	D
C	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
E	200.0	Wood fibre insulation [039; 45]	0.039	1 - 2	45	2.100	E
F	15.0	OSB (sealed with airtight tape)	0.130	200	600	1.700	D
G	15.0	gypsum plaster board type DF or	0.250	10	800	1.050	A2
G	15.0	gypsum fibre board	0.320	21	1000	1.100	A2

Sustainability rating (per m^2)

Database ecoinvent

OI3$_{Kon}$	18.5

Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials	kg	52.260
Biogenic carbon in kg CO$_2$-e.	kg CO$_2$	75.690
Energy use of Primary Energy	MJ	1018.730
Share of renewable PE	%	37.34

Calculated by TUM

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Designation: awrhho01a-14
Last updated: 8/2/23
Source: Holzforschung Austria
Editor: HFA, PLB

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Details of sustainability rating

Database ecoinvent

Lifecycle (Phases)	GWP [kg CO$_2$-e.]	AP [kg SO$_2$-e.]	EP [kg PO$_4$-e.]	ODP [kg R11-e.]	POCP [kg Ethen-e.]	
A1 - A3		0.105	0.046	1,84E-6	0.023	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	130.889	836.016	966.905	379.952	42.896	422.848

Database GaBi (ÖKOBAUDAT)

Lifecycle (Phases)	GWP [kg CO$_2$-e.]	AP [kg SO$_2$-e.]	EP [kg PO$_4$-e.]	ODP [kg R11-e.]	POCP [kg Ethen-e.]	
A1 - A3		0.115	0.025	1,54E-6	0.033	
C1 - C4		0.002	0.000	9,49E-8	0.000	
A1 - C4		0.119	0.026	1,64E-6	0.034	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	378.185	1173.007	1551.468	610.190	54.340	664.620
C1 - C4	1.839	-1168.720	-1166.882	22.910	-53.398	-30.490
A1 - C4	380.403	4.546	385.224	638.329	0.994	639.420

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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