External wall - awrhho01a-13
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$_l$)	

Assessed by Müller-BBM

Mass per unit area	m	63.90 kg/m^2

Calculation based on gypsum plaster board type DF
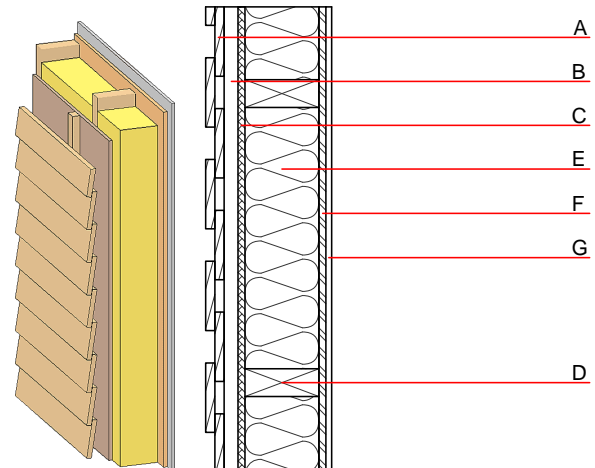
Register of building materials used for this application, cross-section (from outside to inside, dimensions in mm)

	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	Cellulose fibre [040; 50]	0.040	1	50	2.000	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$_{Kon}$	16.9

Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials	kg	54.070
Biogenic carbon in kg CO$_2$-e.	kg CO$_2$	76.170
Energy use of Primary Energy	MJ	548.050
Share of renewable PE	%	33.58

Calculated by TUM

dataholz.eu

Designation: awrhho01a-13
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		0.107	0.045	1,65E-6	0.021	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	124.610	789.128	913.738	327.558	28.891	356.450

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		0.072	0.014	1,44E-6	0.022	
C1 - C4		0.006	0.007	1,20E-7	0.001	
A1 - C4		0.080	0.022	1,57E-6	0.023	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	182.793	865.444	1048.553	343.009	22.607	365.710
C1 - C4	0.782	-711.817	-711.036	14.400	-21.420	-7.020
A1 - C4	184.053	153.887	338.255	364.002	1.251	365.350

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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