External wall - awrhho01a-11

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
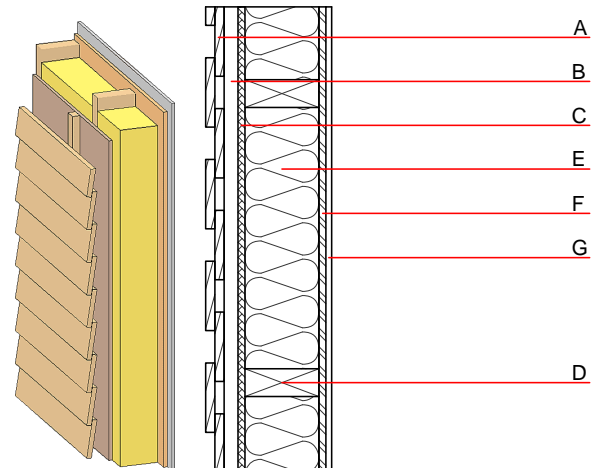
| Thermal performance | U | 0.25 W/(m^{2}K) |
| | Diffusion | suitable |

Calculated by TUM

| Acoustic performance | R_w (C;C$_{tr}$) | 47(-2;-8) dB |
| | $L_{n,w}$ (C$_I$) | |

Assessed by Müller-BBM

| Mass per unit area | m | 57.70 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	160.0	construction timber (60/..; e=625)	0.120	50	450	1.600	D
E	160.0	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$_{Kon}$ | 16.9 |

Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials	kg	48.380
Biogenic carbon in kg CO$_2$-e.	kg CO$_2$	70.080
Energy use of Primary Energy	MJ	899.840
Share of renewable PE	%	36.69

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.

Page 1

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Designation: awrhho01a-11
Last updated: 8/2/23
Source: Holzforschung Austria
Editor: HFA, PLB

Page 2

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		0.097	0.042	1,68E-6	0.021	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	121.921	774.918	896.839	349.506	40.095	389.601

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		0.102	0.022	1,45E-6	0.030	
C1 - C4		0.002	0.000	8,99E-8	0.000	
A1 - C4		0.106	0.023	1,55E-6	0.031	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	328.201	1048.948	1377.271	544.628	47.925	592.630
C1 - C4	1.592	-1044.669	-1043.077	19.814	-46.983	-27.170
A1 - C4	330.172	4.538	334.832	569.671	0.994	570.740

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Page 2