External wall - awrhhi11a-00

external wall, timber frame construction, ventilated, with dry lining, with cladding, other surface

Performance rating

Fire protection performance

Fire protection	REI from inside	60
performance	REI from outside	60

maximum ceiling height = 3 m; maximum load $E_{d,fi}$ = 19,2 kN/m
Classified by HFA

Germany

F30 (from inside/from outside)

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

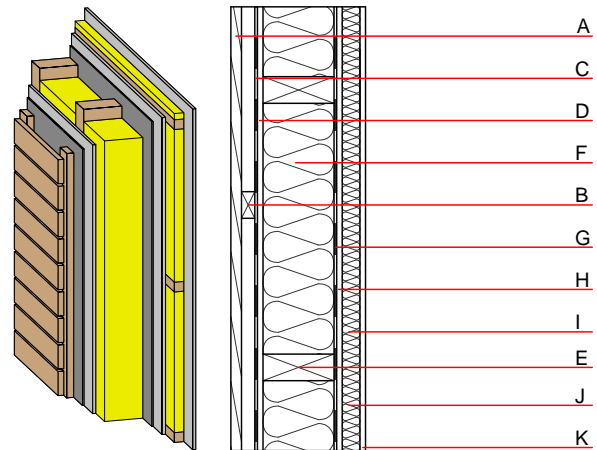Corresponding proof: DIN 4102-4:2016-05, Tabelle 10.6, Zeile 12

Thermal performance	U	0.21 W/(m²K)
	Diffusion	suitable

Calculated by TUM

Acoustic performance	R_w (C;C_{tr})	58(-1;-6) dB
	$L_{n,w}$ (C_I)	

Assessed by Müller-BBM

Mass per unit area	m	60.60 kg/m²

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

	Thickness	Building material	λ	μ min – max	ρ	c	Reaction to fire 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		wind barrier			1000		
D	12.5	gypsum fibre board	0.320	21	1000	1.100	A2
E	160.0	construction timber (60/..; e=625)	0.120	50	450	1.600	D
F	160.0	mineral wool [040; 30; ≥1000°C]	0.040	1	30	1.030	A1
G		vapour barrier sd≥ 5m			1000		
H	12.5	gypsum plaster board type DF	0.250	10	800	1.050	A2
I	40.0	spruce wood cross battens (a=400) ≥ 40mm	0.120	50	450	1.600	D
J	40.0	mineral wool [040; 30; ≥1000°C] ≥40mm	0.040	1	30	1.030	A1
K	12.5	gypsum plaster board type A	0.250	4 - 10	680	1.050	A2

Sustainability rating (per m²)

Database ecoinvent

OI3$_{Kon}$	28.7

Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials	kg	24.720
Biogenic carbon in kg CO_2-e.	kg CO_2	36.120
Energy use of Primary Energy	MJ	430.070
Share of renewable PE	%	29.67

Calculated by TUM

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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		0.141	0.045	1,92E-6	0.026	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	70.696	413.228	483.924	370.167	10.862	381.030

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		0.094	0.015	7,84E-7	0.010	
C1 - C4		0.004	0.003	1,24E-7	0.001	
A1 - C4		0.102	0.019	9,31E-7	0.011	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	126.019	443.694	569.265	271.461	46.722	318.260
C1 - C4	0.419	-427.107	-426.687	14.213	-0.080	14.130
A1 - C4	127.584	17.364	144.500	302.490	46.798	349.360

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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