External wall - awropo22b-15

external wall, timber frame construction, not ventilated, without dry lining, with rendering, other surface

Performance rating

Fire protection performance	REI from inside	60
	REI from outside	60

maximum ceiling height = 3 m; maximum load $E_{d,fi}$ = 32 kN/m
Classified by HFA
Classified by HFA

Germany
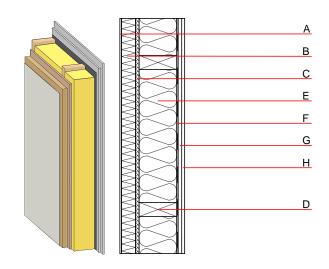
F60 (from inside/from outside)

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

Corresponding proof: manufacturer-specific

Thermal performance	U	0.14 W/(m^{2}K)
	Diffusion	suitable
Calculated by TUM		

Acoustic performance	R_w (C;C$_{tr}$)	53(-2;-8) dB
	$L_{n,w}$ (C$_I$)	
Assessed by Müller-BBM		

Mass per unit area	m	76.90 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	7.0	plaster	1.000	10 - 35	2000	1.130	A1
B	60.0	wood-fibre insulation board [055; 200]	0.055	5 - 7	200	2.100	E
C	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
E	240.0	mineral wool [040; 30; ≥1000°C]	0.040	1	30	1.030	A1
F		vapour barrier sd≥ 3m			1000		
G	15.0	gypsum fibre board	0.320	21	1000	1.100	A2
H	12.5	gypsum fibre board or	0.320	21	1000	1.100	A2
H	12.5	gypsum plaster board type DF	0.250	10	800	1.050	A2

Sustainability rating (per m^2)

Database ecoinvent

OI3$_{Kon}$	46.0

Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials	kg	36.220
Biogenic carbon in kg CO$_2$-e.	kg CO$_2$	51.370
Energy use of Primary Energy	MJ	676.180
Share of renewable PE	%	28.72

Calculated by TUM

dataholz.eu

Designation: awropo22b-15
Last updated: 8/2/23
Source: Holzforschung Austria
Editor: HFA, SP

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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		0.203	0.073	3.02E-6	0.050	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	132.649	512.935	645.584	598.792	39.775	638.567

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		0.124	0.022	1.59E-6	0.017	
C1 - C4		0.004	0.003	9.48E-8	0.001	
A1 - C4		0.133	0.026	1.70E-6	0.018	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	192.612	530.332	724.165	452.928	46.856	499.890
C1 - C4	0.726	-519.482	-518.591	15.976	-25.732	-7.550
A1 - C4	194.204	11.368	207.162	481.977	21.240	508.910

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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