External wall - awropi19a-03

external wall, timber frame construction, not ventilated, with 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 $E_{d,fi}$ = 32,0 kN/m
Classified by HFA

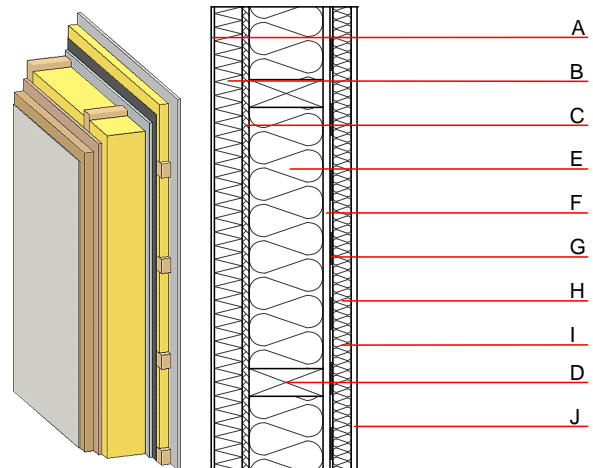| Thermal performance | U | 0.15 W/(m²K) |
| | Diffusion | suitable |

Calculated by HFA

| Acoustic performance | R_w (C;C$_{tr}$) | 53(-3;-10) dB |
| | $L_{n,w}$ (C$_I$) | |

Vertical battens for the dry lining screwed onto the ledger beams lead to an Rw(C;Ctr)=50(-1;-7) dB
Assessed by MA39

| Mass per unit area | m | 78.60 kg/m² |

Calculation based on gypsum plaster board type DF

Note: e=625

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 WF-PT [045; 180]	0.045	5 - 7	180	2.100	E
C	15.0	fibreboard (MDF)	0.140	11	600	1.700	D
D	200.0	construction timber (60/..; e=*)	0.120	50	450	1.600	D
E	200.0	mineral wool [040; ≥16; <1000°C]	0.040	1	16	1.030	A1
F	15.0	gypsum fibre board	0.320	21	1000	1.100	A2
G		vapour barrier sd≥ 3m			1000		
H	40.0	spruce wood cross battens (a=400) or battens offset)	0.120	50	450	1.600	D
I	40.0	mineral wool [040; ≥16; <1000°C] or air layer in type 02	0.040	1	16	1.030	A1
J	12.5	gypsum plaster board type DF or	0.250	10	800	1.050	A2
J	12.5	gypsum fibre board	0.320	21	1000	1.100	A2

Sustainability rating (per m²)

Database ecoinvent

OI3$_{Kon}$ 43.5
Calculated by HFA

dataholz.eu

Designation: awropi19a-03
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		0.178	0.080	3,50E-6	0.024	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	91.674	591.316	682.991	642.522	46.281	688.803

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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