## External wall - awrohi02a-07
external wall, timber frame construction, not ventilated, with 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 $E_{d,fi}$ = 19,2 kN/m
Classified by HFA

| Thermal performance | U | 0.16 W/(m^{2}K) |
| | Diffusion | suitable |

Calculated by HFA

| Acoustic performance | R_w (C;C_{tr}) | 51(-3;-9) dB |
| | $L_{n,w}$ (C_I) | |

Vertical battens for the dry lining screwed onto the ledger beams lead to an
Rw(C;Ctr)=48(-1;-5) dB
Assessed by MA39

| Mass per unit area | m | 71.70 kg/m^2 |

Calculation based on GF
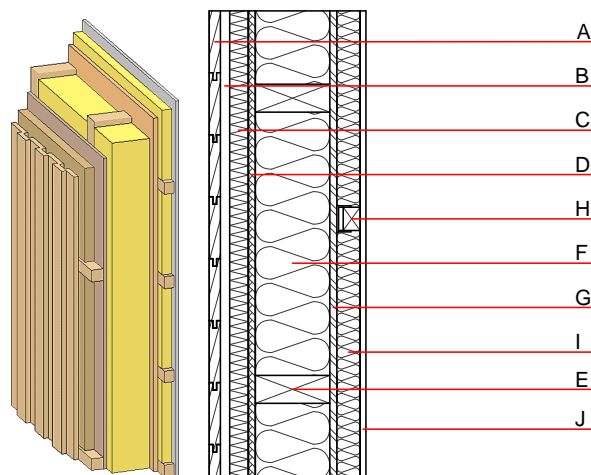
Note: e=625

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	24.0	larch wood external wall cladding	0.155	150	600	1.600	D
B	50.0	spruce wood cross battens	0.120	50	450	1.600	D
C	40.0	softboard [045; 250] - rigid underlay	0.045	5	250	2.100	E
D	15.0	fibreboard (MDF)	0.140	11	600	1.700	D
E	160.0	construction timber (60/..; e=*)	0.120	50	450	1.600	D
F	160.0	mineral wool [035; 50; <1000°C]	0.035	1	50	1.030	A1
G	15.0	OSB (sealed with airtight tape)	0.130	200	600	1.700	D
H	40.0	spruce wood cross battens (a=400) or battens offset)	0.120	50	450	1.600	D
I	40.0	mineral wool [035; 50; <1000°C] or air layer in type 02	0.035	1	50	1.030	A1
J	12.5	gypsum fibre board or	0.320	21	1000	1.100	A2
J	12.5	gypsum plaster board type DF	0.250	10	800	1.050	A2

Sustainability rating (per m^2)

Database ecoinvent

| OI3$_{Kon}$ | 52.9 |

Calculated by HFA

dataholz.eu

Designation: awrohi02a-07
Last updated: 8/2/23
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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		0.239	0.107	4,14E-6	0.038	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	154.027	873.358	1027.385	784.260	42.896	827.156

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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