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Designation: awrohi02a-04
Last updated: 8/2/23
Source: Holzforschung Austria
Editor: HFA, SP

External wall - awrohi02a-04

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**	0.13 W/(m²K)
	Diffusion	suitable

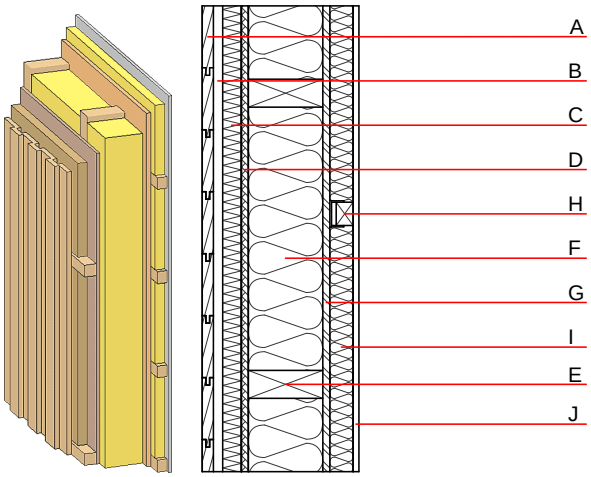
Calculated by HFA

Acoustic performance	**R_w ($C;C_{tr}$)**	52(-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)=49(-1;-5) dB
Assessed by MA39

Mass per unit area	**m**	69.50 kg/m²

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	240.0	construction timber (60/..; e=*)	0.120	50	450	1.600	D
F	240.0	mineral wool [040; ≥16; <1000°C]	0.040	1	16	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 [040; ≥16; <1000°C] or air layer in type 02	0.040	1	16	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 m²)

Database ecoinvent

$OI3_{Kon}$	35.7

Calculated by HFA

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	0.079	3,05E-6	0.033	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	155.978	936.250	1092.228	595.455	42.896	638.351