External wall - awrhhi02a-10

external wall, timber frame construction, 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	0.23 W/(m²K)
	Diffusion	suitable

Calculated by HFA
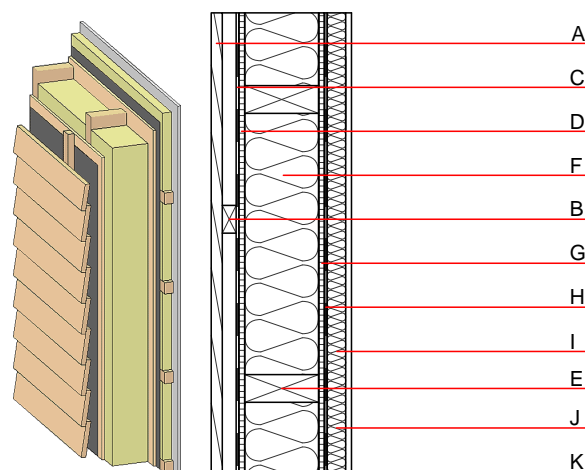
Acoustic performance	R_w (C;C_{tr})	50(-3;-10) dB
	$L_{n,w}$ (C_I)	

Battens for the ventilation space screwed onto the structural timber together with vertical battens for the dry lining screwed directly onto the ledger beams will result in Rw(C;Ctr)=43(-1;-5) dB
Assessed by MA39

Mass per unit area	m	41.20 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	30.0	spruce wood battens offset (30/50; 30/80) - ventilation	0.120	50	450	1.600	D
C		wind barrier			1000		
D	16.0	particleboard	0.130	50 - 100	700	1.700	D
E	160.0	construction timber (60/..; e=*)	0.120	50	450	1.600	D
F	160.0	sheep wool [0,041; R=26]	0.041	1	30	1.720	E
G	16.0	particleboard	0.130	50 - 100	700	1.700	D
H		vapour barrier sd≥ 5m			1000		
I	40.0	spruce wood cross battens (a=400) or battens offset)	0.120	50	450	1.600	D
J	40.0	sheep wool [0,041; R=16]	0.041	1	16	1.720	E
K	12.5	gypsum plaster board type DF or	0.250	10	800	1.050	A2
K	12.5	gypsum fibre board	0.320	21	1000	1.100	A2

Sustainability rating (per m²)

Database ecoinvent

OI3$_{Kon}$	20.6

Calculated by HFA

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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Designation: awrhhi02a-10
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		0.095	0.043	1,92E-6	0.027	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	86.817	799.001	885.818	420.392	54.906	475.298

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