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Designation: awrhhi09a-03
Last updated: 8/2/23
Source: Holzforschung Austria
Editor: HFA, PLB

External wall - awrhhi09a-03

external wall, timber frame construction, ventilated, with dry lining, with cladding, wooden surface

Performance rating

Fire protection performance	**REI from inside**	30
	REI from outside	30

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

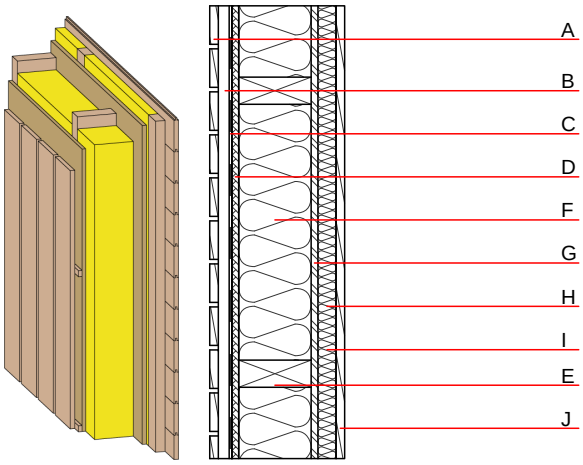
Thermal performance	**U**	0.17 W/(m²K)
	Diffusion	suitable

Calculated by HFA

Acoustic performance	**R_w ($C;C_{tr}$)**	45(-2;-6) dB
	$L_{n,w}$ (C_I)	

with closed wooden facade R_w von 48 (-3; -9)
Assessed by TGM

Mass per unit area	**m**	62.70 kg/m²



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	19.0	larch wood external wall cladding (open) vertical	0.155	150	600	1.600	D
B	30.0	larch wood - cross battens (30/50; 30/80) - ventilation	0.155	150	600	1.600	D
C		wind barrier			1000		
D	15.0	fibreboard (MDF)	0.140	11	600	1.700	D
E	200.0	construction timber (60/..; e=625)	0.120	50	450	1.600	D
F	200.0	Cellulose fibre [040; 50]	0.040	1	50	2.000	E
G	15.0	OSB	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	Cellulose fibre [040; 50]	0.040	1	50	2.000	E
J	19.0	planking tongue and groove	0.120	50	450	1.600	D

Sustainability rating (per m²)

Database ecoinvent

$OI3_{Kon}$	20.7

Calculated by IBO

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		0.147	0.055	1,76E-6	0.007	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	99.885	983.873	1083.758	378.385	38.974	417.359