

External wall - awrhh09a-02

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 $E_{d,fi} = 32 \text{ kN/m}$		
Classified by HFA		

Thermal performance	U	0.14 $\text{W}/(\text{m}^2\text{K})$
	Diffusion	suitable

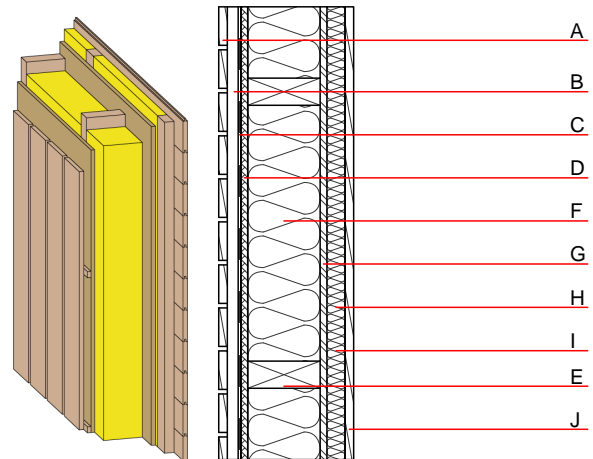
Calculated by HFA

Acoustic performance	$R_w (C;C_{tr})$	46(-2;-6) dB
	$L_{n,w} (C_i)$	

with closed wooden facade R_w von 50 (-3; -10)

Assessed by TGM

Mass per unit area	m	58.10 kg/m^2
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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 EN
			λ	μ min - max	ρ	c	
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	240.0	construction timber (60/..; e=625)	0.120	50	450	1.600	D
F	240.0	mineral wool [0,35; ≥ 20 ; $< 1000^\circ\text{C}$]	0.035	1	20	1.030	A1
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	mineral wool [0,35; ≥ 20 ; $< 1000^\circ\text{C}$]	0.035	1	20	1.030	A1
J	19.0	planking tongue and groove	0.120	50	450	1.600	D

Sustainability rating (per m^2)

Database ecoinvent

$OI3_{Kon}$ 32.4

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		0.178	0.072	2,47E-6	0.009	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	98.130	894.994	993.124	510.525	38.974	549.500