

External wall - awrhh09a-01

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

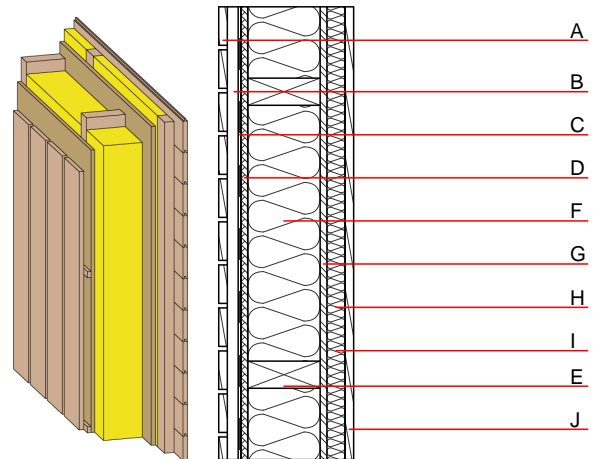
Thermal performance U 0.16 $\text{W}/(\text{m}^2\text{K})$
 Diffusion suitable

Calculated by HFA

Acoustic performance $R_w (C;C_{tr})$ 46(-2;-7) dB
 $L_{n,w} (C_i)$

with closed wooden facade R_w von 49 (-3; -10)
 Assessed by TGM

Mass per unit area m 55.80 kg/m^2



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	200.0	construction timber (60/..; e=625)	0.120	50	450	1.600	D
F	200.0	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

O13_{Kon} 29.7

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		0.166	0.066	2,27E-6	0.008	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	95.318	863.439	958.757	473.878	38.974	512.852