

External wall - awrhh10a-01

external wall, timber frame construction, not 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

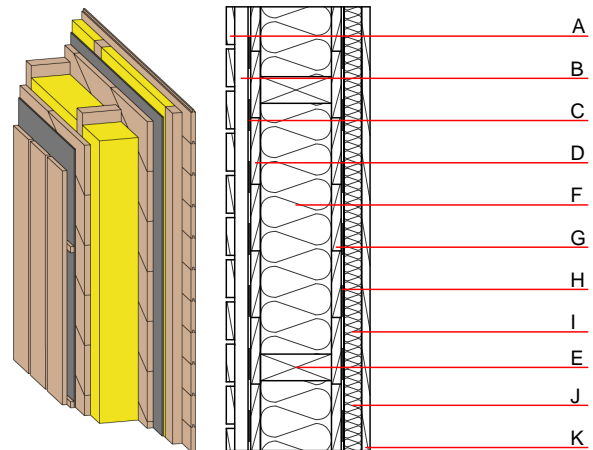
Thermal performance U 0.15 $\text{W}/(\text{m}^2\text{K})$
 Diffusion suitable

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 56.20 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	$\mu \text{ min} - \text{max}$	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) - ventilation	0.155	150	600	1.600	D
C		wind barrier			1000		
D	22.0	planking spruce wood diagonal	0.120	50	450	1.600	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	22.0	planking spruce wood diagonal	0.120	50	450	1.600	D
H		vapour barrier $s_d \geq 5\text{m}$			1000		
I	40.0	spruce wood cross battens (a=400) or battens offset)	0.120	50	450	1.600	D
J	40.0	mineral wool [0,35; ≥ 20 ; $< 1000^\circ\text{C}$]	0.035	1	20	1.030	A1
K	19.0	planking tongue and groove	0.120	50	450	1.600	D

Sustainability rating (per m^2)

Database ecoinvent

$O13_{kon}$ 23.6

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		0.147	0.067	2,33E-6	0.009	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	57.922	917.073	974.995	431.099	10.862	441.962