

External wall - awrhh10a-02

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	0.13 W/(m ² K)
	Diffusion	suitable

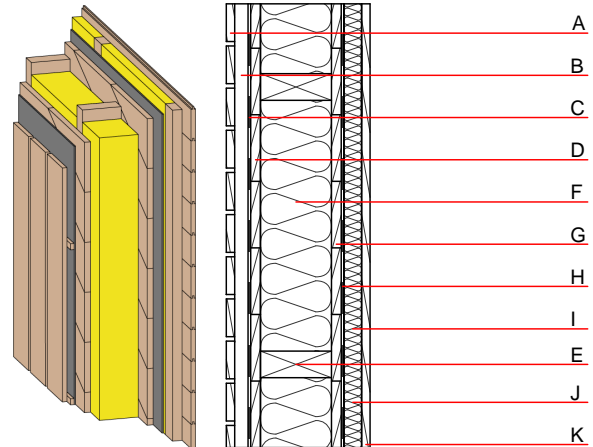
Calculated by HFA

Acoustic performance	$R_w (C; C_{tr})$	47(-2;-7) dB
	$L_{n,w} (C_i)$	

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

Assessed by TGM

Mass per unit area	m	58.50 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	$\mu \text{ min} - \text{max}$	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	240.0	construction timber (60/..; e=625)	0.120	50	450	1.600	D
F	240.0	mineral wool [0,35; ≥20; <1000°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°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 m²)

Databaseecoinvent

013_{kon} 27.2

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		0.163	0.074	2.59E-6	0.009	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	61.288	948.628	1009.916	477.781	10.862	488.643