

External wall - awrhh13a-00

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

Performance rating

Fire protection performance	REI from inside	60
	REI from outside	30
maximum ceiling height = 3 m; maximum load $E_{d,fi}$ = 32 kN/m		
Classified by HFA		

Thermal performance	U	0.19 W/(m ² K)
	Diffusion	suitable

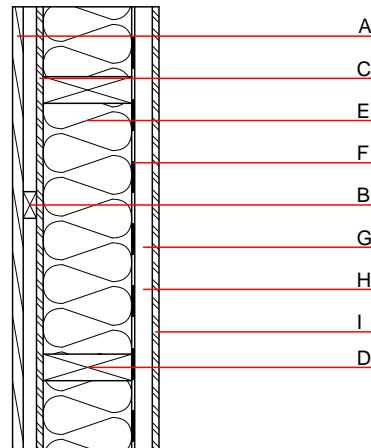
Calculated by HFA

Acoustic performance	R_w (C;C _{tr})	48(-3;-10) dB
	$L_{n,w}$ (C _i)	

If the battens of the ventilation level are screwed to the structural timber and the battens for the dry lining carried out vertically and screwed to the structural timber the result is $R_w \geq 41$ dB

Assessed by HFA

Mass per unit area	m	53.90 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	24.0	larch wood external wall cladding	0.155	150	600	1.600	D
B	30.0	spruce wood battens offset (30/50; 30/80) - ventilation	0.120	50	450	1.600	D
C	15.0	OSB	0.130	200	600	1.700	D
D	200.0	construction timber (60/...; e=625)	0.120	50	450	1.600	D
E	200.0	mineral wool [038; ≥ 33 ; $\geq 1000^\circ\text{C}$]	0.038	1	33	1.030	A1
F		vapour barrier $s_d \geq 4\text{m}$			1000		
G	40.0	spruce wood cross battens 40/60mm (a=400)	0.120	50	450	1.600	D
H	40.0	air layer	0.000	1	1	1.008	
I	16.0	Kronospan OSB-Firestop	0.110	150 - 170	660	1.700	B

Sustainability rating (per m²)

Database ecoinvent

$O13_{kon}$ 28.1

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		0.162	0.054	1,68E-6	0.059	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	85.673	762.936	848.609	399.570	29.581	429.151