

External wall - awrhh13a-01

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

Thermal performance
 U 0.17 W/(m²K)
 Diffusion suitable

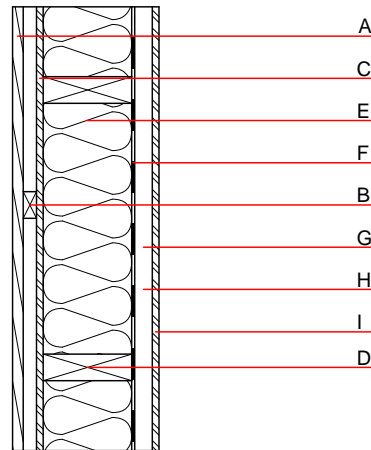
Calculated by HFA

Acoustic performance
 $R_w (C; C_{tr})$ 49(-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 $R_w \geq 42 \text{ dB}$

Assessed by HFA

Mass per unit area m 56.80 kg/m²



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	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	240.0	construction timber (60/...; e=625)	0.120	50	450	1.600	D
E	240.0	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

OI3_{kon} 32.0

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		0.181	0.059	1,81E-6	0.067	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	87.726	787.782	875.508	435.881	29.581	465.462