

External wall - awrho04a-02

external wall, timber frame construction, ventilated, without dry lining, with cladding, other surface

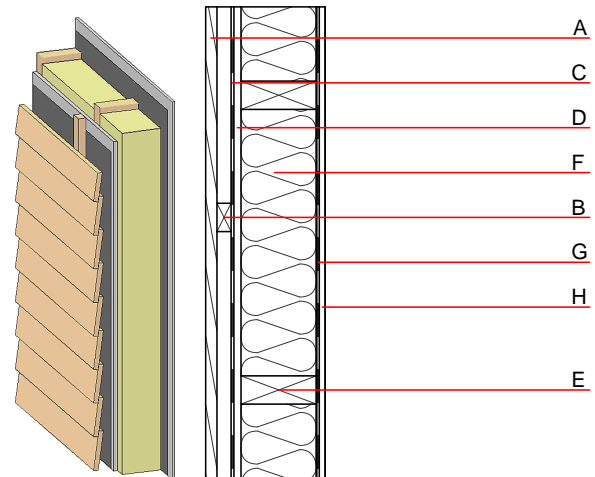
Performance rating

Fire protection performance
 REI from inside 30
 REI from outside 30
 maximum ceiling height = 3 m; maximum load $E_{d,fi} = 19,2 \text{ kN/m}$
 Classified by HFA

Thermal performance
 U 0.22 W/(m²K)
 Diffusion suitable
 Calculated by HFA

Acoustic performance
 $R_w (C; C_{tr})$ 46(-2;-8) dB
 $L_{n,w} (C_i)$
 Battens for the ventilation space screwed onto the structural timber result in an $R_w(C; C_{tr})=42(-1;-7)$ dB
 Assessed by MA39

Mass per unit area m 37.90 kg/m²
 Calculation based on GF



Note: e=625

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		wind barrier			1000		
D	12.5	gypsum fibre board	0.320	21	1000	1.100	A2
E	200.0	construction timber (60/...; e=*)	0.120	50	450	1.600	D
F	200.0	mineral wool [040; ≥16; <1000°C]	0.040	1	16	1.030	A1
G		vapour barrier sd ≥ 2m			1000		
H	12.5	gypsum fibre board or	0.320	21	1000	1.100	A2
H	12.5	gypsum plaster board type DF	0.250	10	800	1.050	A2

Sustainability rating (per m²)

Database ecoinvent

013_{Kon} 22.4
 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		0.100	0.047	2,05E-6	0.019	
Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	93.296	394.106	487.402	354.979	10.862	365.841