

External wall - awrho05a-07

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

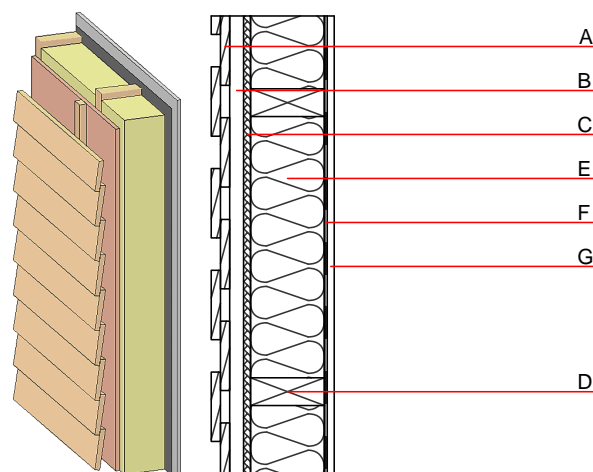
Performance rating

Fire protection performance REI from inside 30
 REI from outside 30
 maximum ceiling height = 3 m; maximum load $E_{d,fi} = 32,0 \text{ kN/m}$
 Classified by MA39
 Classified by HFA

Thermal performance U 0.29 W/(m²K)
 Diffusion suitable
 Calculated by HFA

Acoustic performance $R_w (C; C_{tr})$ 45(-2;-8) dB
 $L_{n,w} (C_i)$
 Battens for the ventilation space screwed onto the structural timber result in an $R_w(C; C_{tr})=41(-1;-7) \text{ dB}$
 Assessed by MA39

Mass per unit area m 29.10 kg/m²
 Calculation based on GF



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	fibreboard (MDF)	0.140	11	600	1.700	D
D	160.0	construction timber (60/...; e=625)	0.120	50	450	1.600	D
E	160.0	sheep wool [0,041; R=26]	0.041	1	30	1.720	E
F		vapour barrier $s_d \geq 1 \text{ m}$				1000	
G	15.0	gypsum fibre board or	0.320	21	1000	1.100	A2
G	15.0	gypsum plaster board type DF	0.250	10	800	1.050	A2

Sustainability rating (per m²)

Database ecoinvent

OI3_{Kon} 14.2
 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		0.072	0.032	1,51E-6	0.017	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	94.710	598.588	693.298	286.957	23.378	310.334