

External wall - awrho04b-06

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

Performance rating

Fire protection performance
 REI from inside 60
 REI from outside 60
 maximum ceiling height = 3 m; maximum load $E_{d,fi} = 50,0 \text{ kN/m}$
 Classified by MA39
 Classified by HFA

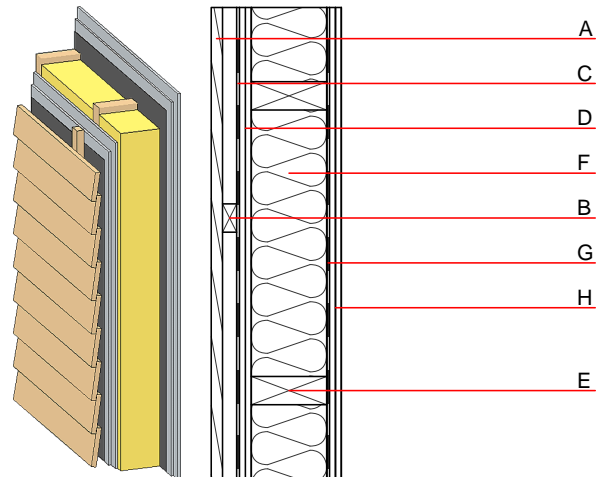
Thermal performance
 U 0.27 W/(m²K)
 Diffusion suitable

Acoustic performance
 $R_w (C; C_{tr})$ 48(-2;-7) dB
 $L_{n,w} (C_i)$

Battens for the ventilation space screwed onto the structural timber result in an $R_w(C; C_{tr})=44(-1;-6) \text{ dB}$
 Assessed by MA39

Mass per unit area m 56.00 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		wind barrier			1000		
D	25.0	gypsum fibre board (2x... mm)	0.320	21	1000	1.100	A2
E	160.0	construction timber (60/...; e=625)	0.120	50	450	1.600	D
F	160.0	cellulose fibre [040; E]	0.040	1 - 2	55	2.000	E
G		vapour barrier $s_d \geq 2 \text{ m}$			1000		
H	25.0	gypsum fibre board (2x... mm) or	0.320	21	1000	1.100	A2
H	25.0	gypsum plaster board type DF (2x... mm)	0.250	10	800	1.050	A2

Sustainability rating (per m²)

Database ecoinvent

OI3_{kon} 19.3

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		0.087	0.039	2,07E-6	0.016	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	103.026	443.758	546.783	335.823	10.862	346.685