

External wall - awrhho05b-01

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

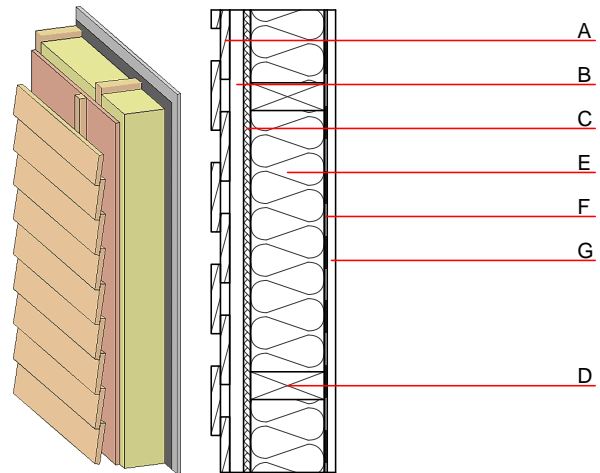
Performance rating

Fire protection performance	REI from inside	60
	REI from outside	30
maximum ceiling height = 3 m; maximum load $E_{d,fi} = 25,0 \text{ kN/m}$ Classified by HFA		

Thermal performance	U	0.34 $\text{W}/(\text{m}^2\text{K})$
	Diffusion	suitable
Calculated by HFA		

Acoustic performance	$R_w (C;C_{tr})$	44(-2;-8) dB
	$L_{n,w} (C_i)$	
Battens for the ventilation space screwed onto the structural timber result in an $R_w(C;C_{tr})=40(-1;-7)$ dB Assessed by MA39		

Mass per unit area	m	26.60 kg/m^2
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	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	fibreboard (MDF)	0.140	11	600	1.700	D
D	120.0	construction timber (60/...; e=*)	0.120	50	450	1.600	D
E	120.0	mineral wool [040; ≥ 16 ; $< 1000^\circ\text{C}$]	0.040	1	16	1.030	A1
F		vapour barrier $s_{d} \geq 1 \text{ m}$				1000	
G	18.0	gypsum fibre board or	0.320	21	1000	1.100	A2
G	18.0	gypsum plaster board type DF	0.250	10	800	1.050	A2

Sustainability rating (per m^2)

Database ecoinvent

OI_{kon} 17.1

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		0.085	0.038	1,49E-6	0.016	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	93.518	478.351	571.869	298.240	22.510	320.750