

External wall - awrohi01b-09

external wall, timber frame construction, not ventilated, with dry lining, with cladding, other surface

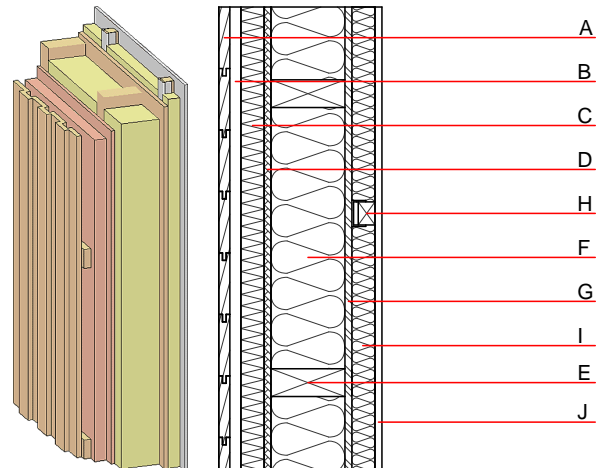
Performance rating

Fire protection performance
 REI from inside 60
 REI from outside 30
 maximum ceiling height = 3 m; maximum load $E_{d,fi} = 19,2 \text{ kN/m}$
 Classified by HFA

Thermal performance
 U 0.18 $\text{W}/(\text{m}^2\text{K})$
 Diffusion suitable
 Calculated by HFA

Acoustic performance
 $R_w (C;C_{tr})$ 54(-2;-8) dB
 $L_{n,w} (C_i)$
 battens for the dry lining mounted offset without using resilient clips will result in $R_w(C;C_{tr})=51(-2;-6)$ dB
 Assessed by MA39

Mass per unit area m 83.50 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	24.0	spruce wood cross battens	0.120	50	450	1.600	D
C	50.0	wood wool composite boards	0.090	2 - 5	370	2.000	B
D	15.0	fibreboard (MDF)	0.140	11	600	1.700	D
E	160.0	construction timber (60/..; e=*)	0.120	50	450	1.600	D
F	160.0	cellulose fibre [040; E]	0.040	1 - 2	55	2.000	E
G	15.0	OSB (sealed with airtight tape)	0.130	200	600	1.700	D
H	40.0	spruce wood battens offset mounted on resilient clips	0.120	50	450	1.600	D
I	40.0	cellulose fibre [040; E] or air layer in type O2	0.040	1 - 2	55	2.000	E
J	15.0	gypsum fibre board or	0.320	21	1000	1.100	A2
J	15.0	gypsum plaster board type DF	0.250	10	800	1.050	A2

Sustainability rating (per m^2)

Database ecoinvent

O13_{kon} 21.4

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		0.124	0.051	2,11E-6	0.024	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	134.479	890.276	1024.755	404.919	28.891	433.810