

External wall - awrhh01b-04

external wall, timber frame construction, ventilated, with 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 $E_{d,fi} = 19,2 \text{ kN/m}$
Classified by HFA

Thermal performance
U 0.16 W/(m²K)
Diffusion suitable

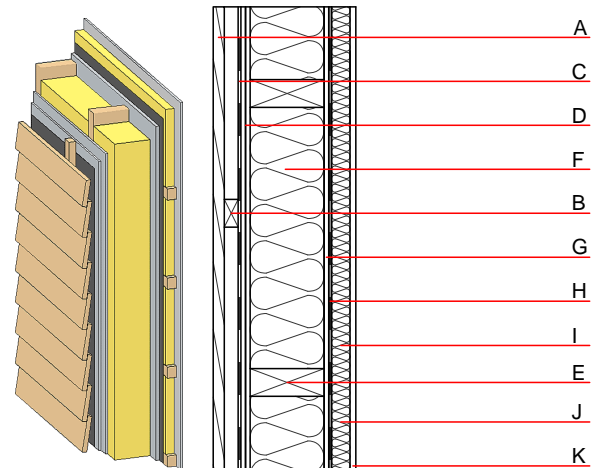
Calculated by HFA

Acoustic performance
 $R_w (C; C_{tr})$ 53(-2;-8) dB
 $L_{n,w} (C_i)$

Battens for the ventilation space screwed onto the structural timber together with vertical battens for the dry lining screwed directly onto the ledger beams will result in $R_w(C; C_{tr})=46(-1;-5) \text{ dB}$
Assessed by MA39

Mass per unit area m 60.90 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	20.0	gypsum fibre board (2x10 mm)	0.320	21	1000	1.100	A2
E	240.0	construction timber (60/..; e=*)	0.120	50	450	1.600	D
F	240.0	mineral wool [040; ≥ 16 ; <1000°C]	0.040	1	16	1.030	A1
G	12.5	gypsum fibre board	0.320	21	1000	1.100	A2
H		vapour barrier $s_d \geq 2 \text{ m}$			1000		
I	40.0	spruce wood cross battens (a=400) or battens offset	0.120	50	450	1.600	D
J	40.0	mineral wool [040; ≥ 16 ; <1000°C]	0.040	1	16	1.030	A1
K	12.5	gypsum fibre board or	0.320	21	1000	1.100	A2
K	12.5	gypsum plaster board type DF	0.250	10	800	1.050	A2

Sustainability rating (per m²)

Database ecoinvent

OL3_{Kon} 30.4

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		0.130	0.061	2,84E-6	0.024	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	102.172	474.686	576.858	477.087	10.862	487.949