

External wall - awmhi03a-00

external wall, solid wood construction, ventilated, with dry lining, with cladding, other surface

Performance rating

Fire protection performance	REI from inside	90
	REI from outside	60

maximum ceiling height = 3 m; maximum load $E_{d,fi} = 35,0 \text{ kN/lm}$
 Classified by HFA

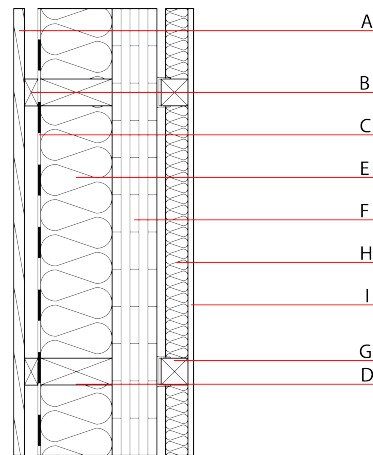
Thermal performance	U	0.16 $\text{W}/(\text{m}^2\text{K})$
	Diffusion	suitable

Calculated by HFA

Acoustic performance	$R_w (C; C_{tr})$	49(-3;-9) dB
	$L_{n,w} (C_i)$	

frequency range 50-3500: $C_{50-3500} -4 \text{ dB}$; $C_{tr,50-3500} -12 \text{ dB}$
 Assessed by HFA

Mass per unit area	m	88.70 kg/m^2
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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	$\mu \text{ min - max}$	ρ	c	
A	24.0	larch wood external wall cladding, e.g. clapboard facade	0.155	150	600	1.600	D
B	30.0	spruce wood battens vertical (30/60); ventilation	0.120	50	450	1.600	D
C		vapour-permeable membrane $sd \leq 0,3\text{m}$					
D	160.0	construction timber (60/..; e=625)	0.120	50	450	1.600	D
E	160.0	mineral wool [0,35; ≥ 20 ; $< 1000^\circ\text{C}$]	0.035	1	20	1.030	A1
F	100.0	cross laminated timber 5-ply	0.130	50	500	1.600	D
G	70.0	battens (60/60) vertical on resilient clips, e=626	0.120	50	450	1.600	
H	50.0	mineral wool [040; 11; $< 1000^\circ\text{C}$]	0.040	1	11	1.030	A1
I	12.5	gypsum plaster board type DF or	0.250	10	800	1.050	A2
I	12.5	gypsum fibre board	0.320	21	1000	1.100	A2

Sustainability rating (per m^2)

Database ecoinvent

$OI3_{kon}$	38.8
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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		0.209	0.093	3,65E-6	0.056	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	112.205	1100.243	1212.448	672.491	23.584	696.075