External wall - awmoho02a-02

external wall, solid wood construction, not ventilated, without dry lining, with cladding, wooden surface

Performance rating

Fire protection performance	**REI from inside**	60
	REI from outside	30

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

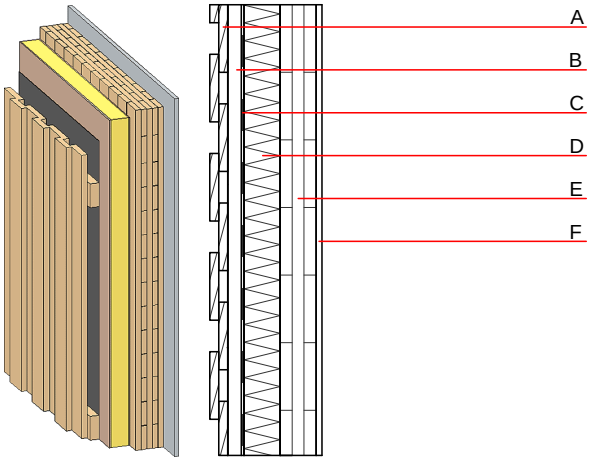
Thermal performance	**U**	0.35 W/(m²K)
	Diffusion	suitable

Calculated by HFA

Acoustic performance	**R_w ($C;C_{tr}$)**	57(-2;-7) dB
	$L_{n,w}$ (C_I)	

Assessed by TU-GRAZ

Mass per unit area	**m**	85.90 kg/m²



Note: When using cross laminated timber:
Variation 00-03: d ≥ 78,0; at least 3-layers, top layer at least 25mm; variation 04: d ≥ 94,0; at least 3-layers, top layer at least 30mm
D=2x60 mm

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
			λ	μ min – max	ρ	c	EN
A	20.0	larch wood external wall cladding	0.155	150	600	1.600	D
B	30.0	spruce wood battens	0.120	50	450	1.600	D
C		vapour-permeable membrane sd ≤ 0,3m					
D	120.0	multilayer wood wool composite board (WW-MW-WW)	0.049	2 - 5	130	1.000	B
E	80.0	solid glued wood (e.g. cross laminated timber)	0.130	50	500	1.600	D
F	12.5	gypsum fibre board or 12,5 mm DF	0.320	21	1000	1.100	A2

Sustainability rating (per m²)

Database ecoinvent

$OI3_{Kon}$	54.9

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		0.275	0.094	3,02E-6	0.104	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	70.334	789.481	859.815	689.919	19.804	709.723