

External wall - awmoho02a-04

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	60
maximum ceiling height = 3 m; maximum load $E_{d,fi} = 35,0 \text{ kN/m}$ Classified by HFA		

Thermal performance	U	0.52 $\text{W}/(\text{m}^2\text{K})$
	Diffusion	suitable

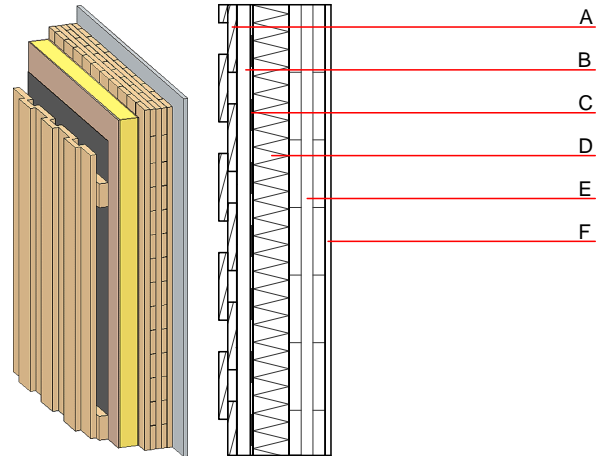
Calculated by HFA

Acoustic performance	$R_w (C; C_{tr})$	45 dB
	$L_{n,w} (C_i)$	

$R_w + C_{tr} \geq 36$

Assessed by TU-GRAZ

Mass per unit area	m	61.90 kg/m^2
---------------------------	---	------------------------------



Note: When using cross laminated timber:

Variation 00-03: $d \geq 78,0$; at least 3-layers, top layer at least 25mm; variation

04: $d \geq 94,0$; at least 3-layers, top layer at least 30mm without gypsum board lining

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	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 $sd \leq 0,3\text{m}$					
D	50.0	multilayer wood wool composite board (WW-MW-WW)	0.049	2 - 5	130	1.000	B
E	100.0	solid glued wood (e.g. cross laminated timber)	0.130	50	500	1.600	D
F		without gypsum board lining or 12,5 mm DF					

Sustainability rating (per m^2)

Database ecoinvent

OI_{3kon} 32.8

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		0.184	0.070	2,38E-6	0.067	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	65.318	871.277	936.596	507.586	22.553	530.139