

### External wall - awmoho02a-03

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 $E_{d,fi} = 35,0 \text{ kN/m}$ Classified by HFA		

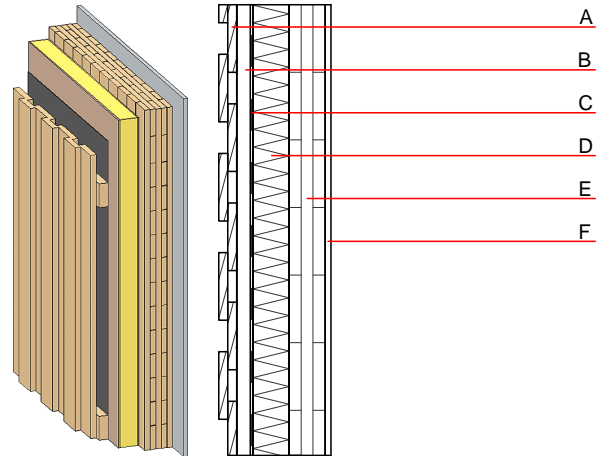
Thermal performance	U	0.35 $\text{W}/(\text{m}^2\text{K})$
	Diffusion	suitable

Calculated by HFA

Acoustic performance	$R_w (C; C_{tr})$	42(-3;-8) dB
	$L_{n,w} (C_i)$	

Assessed by TU-GRAZ

Mass per unit area	m	82.90 $\text{kg}/\text{m}^2$
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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  
 $F=12,5$

#### 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
			$\lambda$	$\mu$ min – max	$\rho$	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	100.0	wood-fibre insulation board [055; 200]	0.055	5 - 7	200	2.100	E
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 $\text{m}^2$ )

##### Database ecoinvent

$OI3_{kon}$  38.4

Calculated by HFA

**Details of sustainability rating**

Database ecoinvent

Lifecycle (Phases)	GWP [kg CO <sub>2</sub> -e.]	AP [kg SO <sub>2</sub> -e.]	EP [kg PO <sub>4</sub> -e.]	ODP [kg R11-e.]	POCP [kg Ethen-e.]	
A1 - A3		0.192	0.086	3,62E-6	0.047	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	104.868	1144.204	1249.072	689.940	58.534	748.473