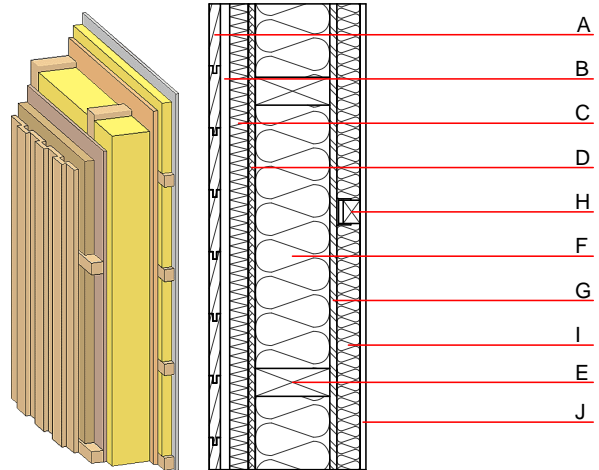


## External wall - awrohi02a-10

external wall, timber frame construction, not ventilated, with dry lining, with cladding, other surface

### Performance rating

<b>Fire protection performance</b>	REI from inside	60
	REI from outside	30
maximum ceiling height = 3 m; maximum load $E_{d,fi}$ = 19,2 kN/m Classified by HFA		
<b>Thermal performance</b>	U	0.19 W/(m <sup>2</sup> K)
	Diffusion	suitable
Calculated by HFA		
<b>Acoustic performance</b>	$R_w$ (C;C <sub>tr</sub> )	50(-3;-9) dB
	$L_{n,w}$ (C <sub>i</sub> )	
Vertical battens for the dry lining screwed onto the ledger beams lead to an $R_w(C;C_{tr})=47(-1;-5)$ dB Assessed by MA39		
<b>Mass per unit area</b>	m	64.50 kg/m <sup>2</sup>
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
			$\lambda$	$\mu$ min – max	$\rho$	c	
A	24.0	larch wood external wall cladding	0.155	150	600	1.600	D
B	50.0	spruce wood cross battens	0.120	50	450	1.600	D
C	40.0	softboard [045; 250] - rigid underlay	0.045	5	250	2.100	E
D	15.0	fibreboard (MDF)	0.140	11	600	1.700	D
E	160.0	construction timber (60/-; e=*)	0.120	50	450	1.600	D
F	160.0	sheep wool [0,041; R=26]	0.041	1	30	1.720	E
G	15.0	OSB (sealed with airtight tape)	0.130	200	600	1.700	D
H	40.0	spruce wood cross battens (a=400) or battens offset	0.120	50	450	1.600	D
I	40.0	sheep wool [0,041; R=26] or air layer in type 02	0.041	1	30	1.720	E
J	12.5	gypsum fibre board or	0.320	21	1000	1.100	A2
J	12.5	gypsum plaster board type DF	0.250	10	800	1.050	A2

### Sustainability rating (per m<sup>2</sup>)

#### Database ecoinvent

013<sub>Kon</sub> 24.4

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		0.125	0.055	2,51E-6	0.027	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	138.386	983.020	1121.406	478.291	43.968	522.259