

### External wall - awrohi02a-02

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

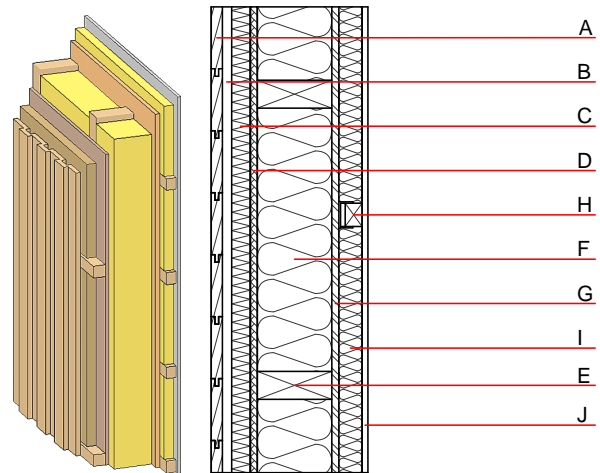
#### Performance rating

**Fire protection performance**  
 REI from inside 60  
 REI from outside 30  
 maximum ceiling height = 3 m; maximum load  $E_{d,fi} = 19,2 \text{ kN/m}$   
 Classified by HFA

**Thermal performance**  
 U 0.19  $\text{W}/(\text{m}^2\text{K})$   
 Diffusion suitable  
 Calculated by HFA

**Acoustic performance**  
 $R_w (C;C_{tr})$  49(-3;-9) dB  
 $L_{n,w} (C_i)$   
 Vertical battens for the dry lining screwed onto the ledger beams lead to an  $R_w(C;Ctr)=46(-1;-5)$  dB  
 Assessed by MA39

**Mass per unit area** m 64.00  $\text{kg}/\text{m}^2$   
 Calculation based on GF



Note: e=625; I=without insulation

#### 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	mineral wool [040; $\geq 16$ ; $< 1000^\circ\text{C}$ ]	0.040	1	16	1.030	A1
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		without insulation					
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 $\text{m}^2$ )

##### Database ecoinvent

$OI3_{Kon}$  28.0

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		0.145	0.064	2,49E-6	0.028	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	140.698	873.358	1014.056	494.846	42.896	537.742