

## External wall - awroho03a-06

external wall, timber frame construction, not ventilated, without dry lining, with cladding, other surface

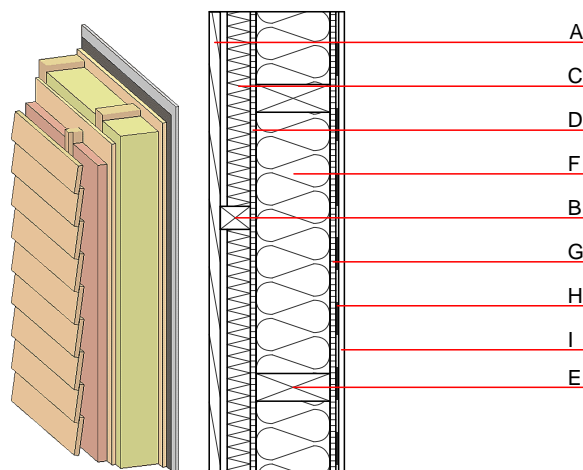
### Performance rating

**Fire protection performance** REI from inside 60  
REI from outside 30  
maximum ceiling height = 3 m; maximum load  $E_{d,fi} = 32,0 \text{ kN/m}$   
Classified by HFA

**Thermal performance** U 0.21  $\text{W}/(\text{m}^2\text{K})$   
Diffusion suitable  
Calculated by HFA

**Acoustic performance**  $R_w (C; C_{tr})$  50 (-2; 7) dB  
 $L_{n,w} (C_i)$   
Vertical external battens screwed onto the ledger beams lead to an  $R_w(C; C_{tr}) = 46 (-1; 5) \text{ dB}$   
Assessed by MA39

**Mass per unit area** m 72.30  $\text{kg}/\text{m}^2$   
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
			$\lambda$	$\mu \text{ min} - \text{max}$	$\rho$	c	
A	24.0	larch wood external wall cladding	0.155	150	600	1.600	D
B	65.0	spruce wood cross battens	0.120	50	450	1.600	D
C	50.0	wood wool composite boards	0.090	2 - 5	370	2.000	B
D	16.0	particleboard	0.130	50 - 100	700	1.700	D
E	160.0	construction timber (60/...; e=*)	0.120	50	450	1.600	D
F	160.0	cellulose fibre [0,040; R=55]	0.040	1 - 2	55	2.000	B
G	12.0	particleboard	0.130	50 - 100	700	1.700	D
H		vapour barrier $s_d \geq 10\text{m}$			1000		
I	12.5	gypsum fibre board or	0.320	21	1000	1.100	A2
I	12.5	gypsum plaster board type DF	0.250	10	800	1.050	A2

### Sustainability rating (per $\text{m}^2$ )

#### Database ecoinvent

OI3<sub>Kon</sub> 19.9

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		0.106	0.043	1,84E-6	0.026	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	96.268	810.694	906.963	399.942	41.362	441.305