

## External wall - awrho04b-05

external wall, timber frame construction, ventilated, without dry lining, with cladding, other surface

### Performance rating

**Fire protection performance**  
 REI from inside 90  
 REI from outside 90  
 maximum ceiling height = 3 m; maximum load  $E_{d,fi} = 32,0 \text{ kN/m}$   
 Classified by MA39  
 Classified by HFA

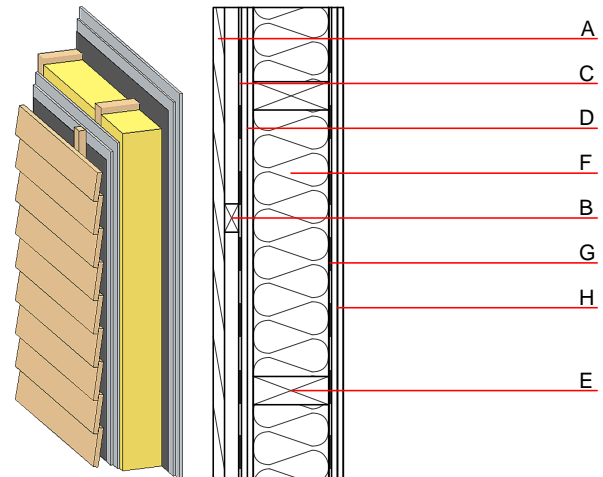
**Thermal performance**  
 U 0.27 W/(m<sup>2</sup>K)  
 Diffusion suitable

**Acoustic performance**  
 $R_w (C; C_{tr})$  48(-2;-7) dB  
 $L_{n,w} (C_i)$

Battens for the ventilation space screwed onto the structural timber result in an  $R_w(C; C_{tr})=44(-1;-6)$  dB  
 Assessed by MA39

**Mass per unit area** m 52.80 kg/m<sup>2</sup>

Calculation based on GF



### 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	30.0	spruce wood battens offset (30/50; 30/80) - ventilation	0.120	50	450	1.600	D
C		wind barrier			1000		
D	25.0	gypsum fibre board (2x... mm)	0.320	21	1000	1.100	A2
E	160.0	construction timber (60/...; e=625)	0.120	50	450	1.600	D
F	160.0	mineral wool [038; ≥33; ≥1000°C]	0.038	1	33	1.030	A1
G		vapour barrier $s_d \geq 2 \text{ m}$			1000		
H	25.0	gypsum fibre board (2x... mm) or	0.320	21	1000	1.100	A2
H	25.0	gypsum plaster board type DF (2x... mm)	0.250	10	800	1.050	A2

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

#### Database ecoinvent

OI3<sub>kon</sub> 29.5

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		0.129	0.047	2,14E-6	0.044	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	99.217	362.661	461.877	405.612	10.862	416.475