

## External wall - awrhho04b-02

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

### Performance rating

<b>Fire protection performance</b>	REI from inside	60
	REI from outside	60
maximum ceiling height = 3 m; maximum load $E_{d,fi} = 50,0 \text{ kN/m}$		
Classified by MA39		
Classified by HFA		

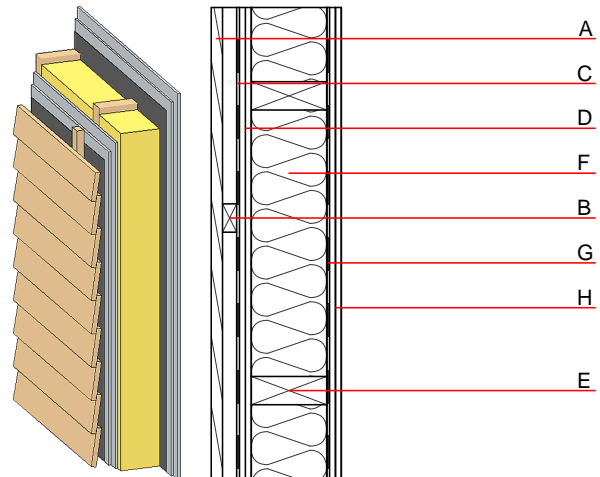
<b>Thermal performance</b>	U	0.22 $\text{W}/(\text{m}^2\text{K})$
	Diffusion	suitable

<b>Acoustic performance</b>	$R_w (C;C_{tr})$	49(-2;-7) dB
	$L_{n,w} (C_i)$	

Battens for the ventilation space screwed onto the structural timber result in an  $R_w(C;C_{tr})=45(-1;-6)$  dB  
 Assessed by MA39

<b>Mass per unit area</b>	m	52.90 $\text{kg}/\text{m}^2$
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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	200.0	construction timber (60/...; e=625)	0.120	50	450	1.600	D
F	200.0	mineral wool [040; $\geq 16$ ; $< 1000^\circ\text{C}$ ]	0.040	1	16	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 $\text{m}^2$ )

#### Database ecoinvent

$OI3_{Kon}$  27.4

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		0.112	0.052	2,62E-6	0.021	
Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	107.156	394.106	501.262	437.504	10.862	448.367