

## External wall - awrhho04b-07

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

### Performance rating

Fire protection performance	REI from inside	60
	REI from outside	60

maximum ceiling height = 3 m; maximum load  $E_{d,fi}$  = 50,0 kN/m  
 Classified by MA39  
 Classified by HFA

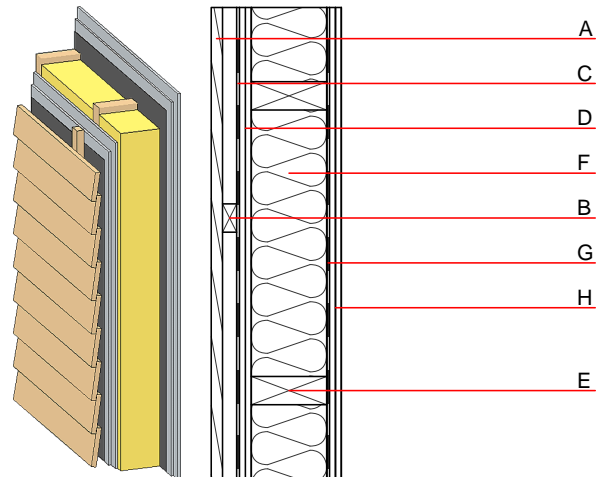
Thermal performance	U	0.30 W/(m <sup>2</sup> K)
	Diffusion	suitable

Acoustic performance	$R_w$ (C;C <sub>tr</sub> )	48(-2;-7) dB
	$L_{n,w}$ (C <sub>i</sub> )	

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	50.40 kg/m <sup>2</sup>
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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	160.0	construction timber (60/...; e=625)	0.120	50	450	1.600	D
F	160.0	sheep wool [0,041; R=26]	0.041	1	30	1.720	E
G		vapour barrier sd≥ 2m			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

013<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		0.076	0.036	2,30E-6	0.017	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	97.245	451.451	548.696	365.129	11.730	376.859