

## External wall - awrhi09a-06

external wall, timber frame construction, ventilated, with dry lining, with cladding, wooden surface

### Performance rating

Fire protection performance	REI from inside	30
	REI from outside	30

maximum ceiling height = 3 m; maximum load  $E_{d,fi}$  = 32 kN/m

Classified by HFA

Thermal performance	U	0.15 W/(m <sup>2</sup> K)
	Diffusion	suitable

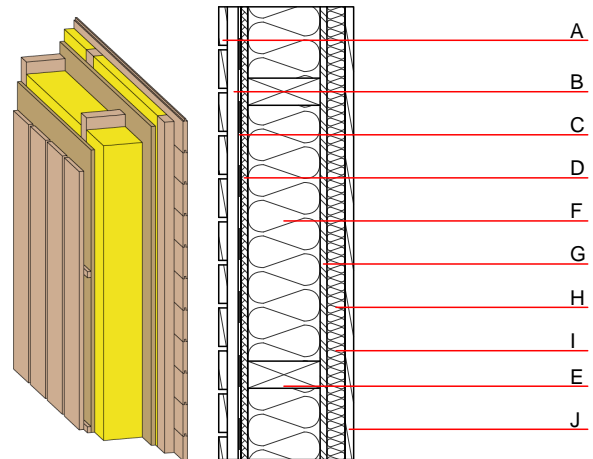
Calculated by HFA

Acoustic performance	$R_w$ (C;C <sub>tr</sub> )	47(-2;-7) dB
	$L_{n,w}$ (C <sub>i</sub> )	

with closed wooden facade  $R_w$  von 50 (-3; -10)

Assessed by TGM

Mass per unit area	m	66.20 kg/m <sup>2</sup>
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### 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	19.0	larch wood external wall cladding (open) vertical	0.155	150	600	1.600	D
B	30.0	larch wood - cross battens (30/50; 30/80) - ventilation	0.155	150	600	1.600	D
C		wind barrier			1000		
D	15.0	fibreboard (MDF)	0.140	11	600	1.700	D
E	240.0	construction timber (60/...; e=625)	0.120	50	450	1.600	D
F	240.0	Wood fibre insulation [039; 50]	0.039	1 - 2	50	2.100	E
G	15.0	OSB	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	40.0	Wood fibre insulation [039; 50]	0.039	1 - 2	50	2.100	E
J	19.0	planking tongue and groove	0.120	50	450	1.600	D

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

#### Database ecoinvent

013 <sub>Kon</sub>	25.4
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Calculated by IBO

## 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		0.159	0.059	2,11E-6	0.008	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	120.403	1100.786	1221.189	462.801	58.414	521.215