

## External wall - awsopi01a-01

external wall, timber frame construction, not ventilated, with dry lining, with rendering, other surface

### Performance rating

Fire protection performance	REI from inside	60
	REI from outside	90

From outside inwards REI 90; maximum ceiling height = 3 m; maximum load  $E_{d,fi}$  = 16,8 kN/lfm  
Classified by HFA

Thermal performance	U	0.10 W/(m <sup>2</sup> K)
	Diffusion	suitable

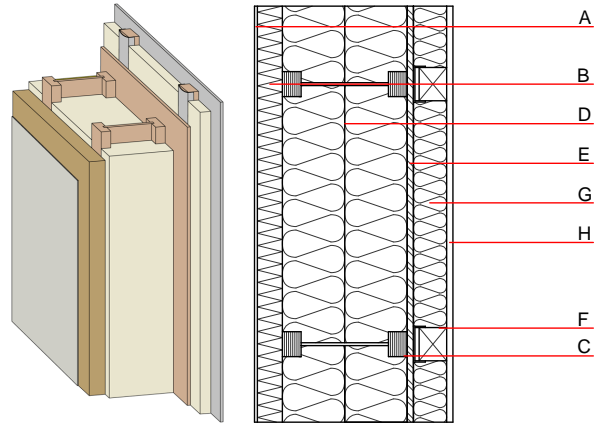
The stated thermal characteristics in the product data sheet are specified for the hard board intermediate web; the flanges are calculated with solid wood.  
Calculated by HFA

Acoustic performance	$R_w$ (C;C <sub>tr</sub> )	59 dB
	$L_{n,w}$ (C <sub>i</sub> )	

without resilient clips  $R_w \geq 56$  dB  
Assessed by HFA

Mass per unit area	m	72.90 kg/m <sup>2</sup>
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Calculation based on gypsum plaster board type DF



### 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	7.0	plaster	1.000	10 - 35	2000	1.130	A1
B	60.0	wood-fibre insulation board [045; 190]	0.045	5 - 7	190	2.100	E
C	300.0	Light composite wood-based beams (I-beams) with solid wood flanges (60/45) and hard board intermediate web ( $\geq 6,7$ ) e=625	0.400	20 - 30	800	1.700	D
D	300.0	Wood fibre insulation [039; 45]	0.039	1 - 2	45	2.100	E
E	15.0	OSB	0.130	200	600	1.700	D
F	80.0	spruce wood battens on resilient clips (50/80; e=625)	0.120	50	450	1.600	D
G	80.0	Wood fibre insulation [039; 45]	0.039	1 - 2	45	2.100	E
H	15.0	gypsum plaster board type DF or	0.250	10	800	1.050	A2
H	15.0	gypsum fibre board	0.320	21	1000	1.100	A2

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

#### Database ecoinvent

013 <sub>Kon</sub>	37.5
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Calculated with gypsum plaster fire protection board (GKF/DF) and silicate plaster  
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		0.158	0.072	3,36E-6	0.024	
Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	108.493	769.285	877.778	617.903	57.200	675.103