

## External wall - awmopi03a-00

external wall, solid wood construction, not ventilated, with dry lining, with rendering, other surface

### Performance rating

Fire protection performance	REI from inside	90
	REI from outside	90
maximum ceiling height = 3 m; maximum load $E_{d,fi} = 35,0 \text{ kN/lfm}$ Classified by HFA		

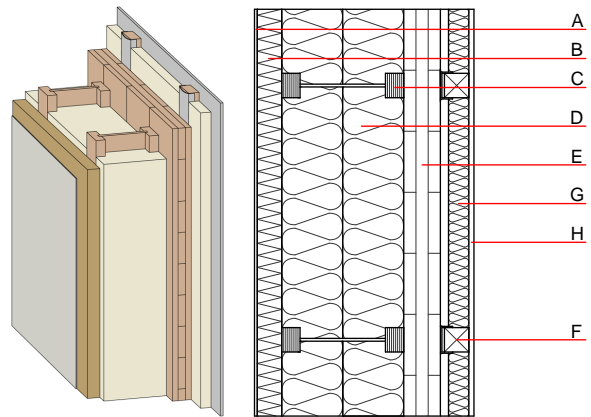
Thermal performance	U	0.09 $\text{W}/(\text{m}^2\text{K})$
	Diffusion	suitable

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	$R_w (C;C_{tr})$	63(-2;-7) dB
	$L_{n,w} (C_i)$	

Mass per unit area	m	108.20 $\text{kg}/\text{m}^2$
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Calculation based on gypsum plaster board type DF



Note: Attention: REI 90 (from inside) in Germany possible with 2x12,5mm gypsum plaster board type DF/gypsum fibre board

### 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
			$\lambda$	$\mu \text{ min - max}$	$\rho$	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	Cellulose fibre [040; 50]	0.040	1	50	2.000	E
E	100.0	cross laminated timber $\geq 94,0$ ; at least 3-layers, top layer at least 30 mm	0.130	50	500	1.600	D
F	70.0	spruce wood Battens on resilient clips (60/60; $e=625$ )	0.120	50	450	1.600	D
G	50.0	Cellulose fibre [040; 50]	0.040	1	50	2.000	E
H	12.5	gypsum plaster board type DF or	0.250	10	800	1.050	A2
H	12.5	gypsum fibre board	0.320	21	1000	1.100	A2

### Sustainability rating (per $\text{m}^2$ )

#### Database ecoinvent

$OI3_{kon}$	45.0
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calculated with gypsum plaster fire protection board (GKF/DF); this data includes 3-, 5-, and 7-ply cross laminated timber elements;  
 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		0.234	0.100	4,18E-6	0.050	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	89.904	1163.632	1253.536	740.049	34.421	774.470