

## External wall - awmopi04a-01

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 60  
maximum ceiling height = 3 m; maximum load  $E_{d,fi} = 35 \text{ kN/lfm}$   
Classified by HFA

**Thermal performance**  
U 0.09 W/(m<sup>2</sup>K)  
Diffusion suitable

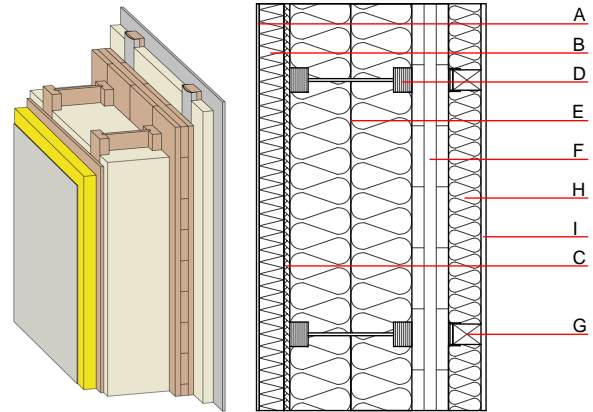
The stated thermal characteristics in the product data sheet are specified for the hard board intermediate web; the flanges are calculated with solid wood.  
Calculated by HFA

**Acoustic performance**  
 $R_w (C; C_{tr})$  49 dB  
 $L_{n,w} (C_i)$

without resilient clips  $R_w \geq 46 \text{ dB}$   
Assessed by HFA

**Mass per unit area** m 109.00 kg/m<sup>2</sup>

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
			$\lambda$	$\mu \text{ min} - \text{max}$	$\rho$	c	
A	4.0	plaster	1.000	10 - 35	2000	1.130	A1
B	60.0	mineral wool MW-PT [040; 155]	0.040	1	155	1.030	A1
C	15.0	fibreboard (MDF)	0.140	11	600	1.700	D
D	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
E	300.0	Wood fibre insulation [039; 45]	0.039	1 - 2	45	2.100	E
F	100.0	cross laminated timber $d \geq 94,0$ ; at least 3-layers, top layer at least 30mm;	0.130	50	500	1.600	D
G	80.0	spruce wood	0.120	50	450	1.600	D
H	80.0	Wood fibre insulation [039; 45]	0.039	1 - 2	45	2.100	E
I	12.5	gypsum plaster board type DF or	0.250	10	800	1.050	A2
I	12.5	gypsum fibre board	0.320	21	1000	1.100	A2

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

#### Database ecoinvent

OL3<sub>Kon</sub> 64.7

calculated with gypsum plaster fire protection board (GKF/DF) and silicate plaster; 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		0.316	0.120	4,49E-6	0.095	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	103.721	1248.846	1352.567	942.586	63.599	1006.185