

### External wall - awrhh10a-03

external wall, timber frame construction, not 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  $E_{d,fi} = 32 \text{ kN/m}$   
 Classified by HFA

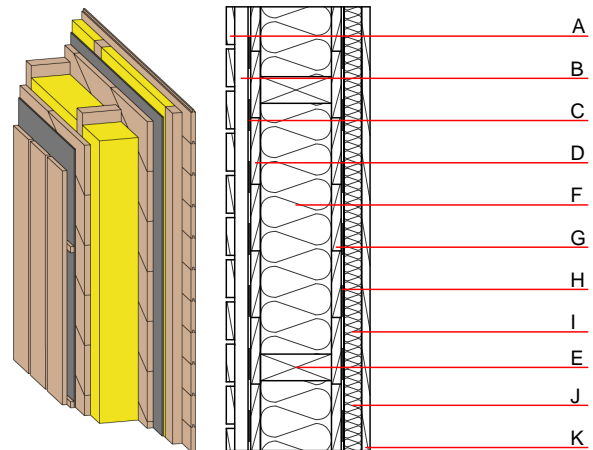
**Thermal performance** U 0.17  $\text{W}/(\text{m}^2\text{K})$   
 Diffusion suitable

Calculated by HFA

**Acoustic performance**  $R_w (C;C_{tr})$  46(-2;-6) dB  
 $L_{n,w} (C_i)$

with closed wooden facade  $R_w$  von 49 (-3; -9)  
 Assessed by TGM

**Mass per unit area** m 63.10  $\text{kg}/\text{m}^2$



#### 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) - ventilation	0.155	150	600	1.600	D
C		wind barrier			1000		
D	22.0	planking spruce wood diagonal	0.120	50	450	1.600	D
E	200.0	construction timber (60/..; e=625)	0.120	50	450	1.600	D
F	200.0	Cellulose fibre [040; 50]	0.040	1	50	2.000	E
G	22.0	planking spruce wood diagonal	0.120	50	450	1.600	D
H		vapour barrier $s_d \geq 5\text{m}$			1000		
I	40.0	spruce wood cross battens (a=400) or battens offset)	0.120	50	450	1.600	D
J	40.0	Cellulose fibre [040; 50]	0.040	1	50	2.000	E
K	19.0	planking tongue and groove	0.120	50	450	1.600	D

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

##### Database ecoinvent

$O13_{kon}$  9.4

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		0.109	0.047	1,48E-6	0.007	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	59.200	1037.508	1096.707	276.000	10.862	286.862