

### External wall - awrhho04a-03

external wall, timber frame construction, ventilated, without dry lining, with cladding, other surface

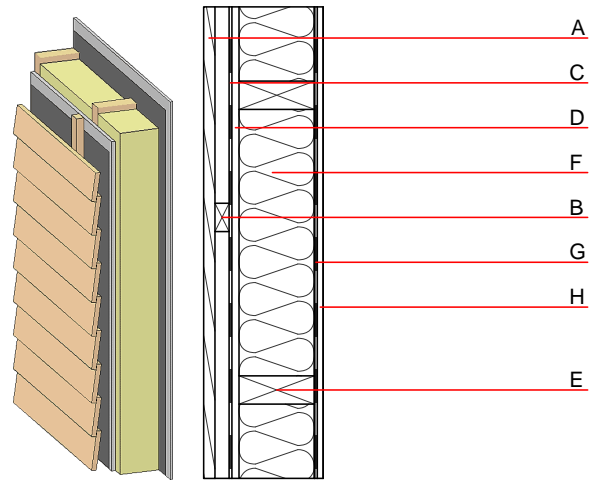
#### Performance rating

**Fire protection performance** REI from inside 30  
 REI from outside 30  
 maximum ceiling height = 3 m; maximum load  $E_{d,fi} = 19,2 \text{ kN/m}$   
 Classified by HFA

**Thermal performance** U 0.19  $\text{W}/(\text{m}^2\text{K})$   
 Diffusion suitable  
 Calculated by HFA

**Acoustic performance**  $R_w (C;C_{tr})$  47(-2;-8) dB  
 $L_{n,w} (C_i)$   
 Battens for the ventilation space screwed onto the structural timber result in an  $R_w(C;C_{tr})=43(-1;-7)$  dB  
 Assessed by MA39

**Mass per unit area** m 40.40  $\text{kg}/\text{m}^2$   
 Calculation based on GF



Note: e=625

#### 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	24.0	larch wood external wall cladding	0.155	150	600	1.600	D
B	30.0	spruce wood battens offset (30/50; 30/80) - ventilation	0.120	50	450	1.600	D
C		wind barrier				1000	
D	12.5	gypsum fibre board	0.320	21	1000	1.100	A2
E	240.0	construction timber (60/..; e=*)	0.120	50	450	1.600	D
F	240.0	mineral wool [040; $\geq 16$ ; $< 1000^\circ\text{C}$ ]	0.040	1	16	1.030	A1
G		vapour barrier $s_d \geq 2\text{m}$				1000	
H	12.5	gypsum fibre board or	0.320	21	1000	1.100	A2
H	12.5	gypsum plaster board type DF	0.250	10	800	1.050	A2

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

##### Database ecoinvent

$OI3_{kon}$  25.1  
 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		0.112	0.052	2,25E-6	0.021	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	100.292	425.552	525.844	391.290	10.862	402.152