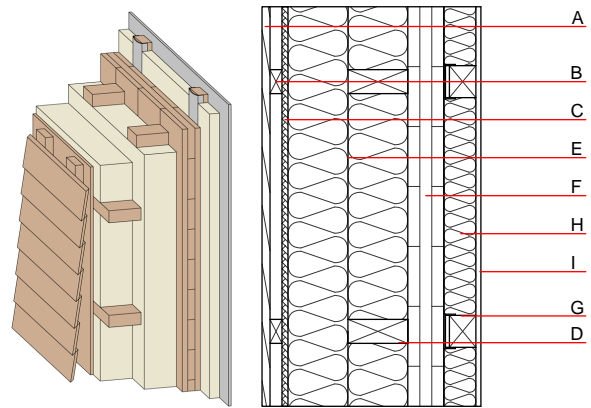


## External wall - awmhh02a-02

external wall, solid wood construction, ventilated, with dry lining, with cladding, other surface

### Performance rating

<b>Fire protection performance</b>	REI from inside	90
	REI from outside	60
maximum ceiling height = 3 m; maximum load $E_{d,fi}$ = 35 kN/lfm Classified by HFA		
<b>Thermal performance</b>	U	0.09 W/(m <sup>2</sup> K)
	Diffusion	suitable
Calculated by HFA		
<b>Acoustic performance</b>	$R_w$ (C;C <sub>tr</sub> )	50 dB
	$L_{n,w}$ (C <sub>i</sub> )	
without resilient clips $R_w \geq 47$ dB Assessed by HFA		
<b>Mass per unit area</b>	m	104.60 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
			$\lambda$	$\mu$ min – max	$\rho$	c	
A	20.0	larch wood external wall cladding	0.155	150	600	1.600	D
B	30.0	spruce wood battens offset (30/60) - ventilation	0.120	50	450	1.600	D
C	15.0	fibreboard (MDF)	0.140	11	600	1.700	D
D	160.0	construction timber cross; (60/160; e=625)	0.120	50	450	1.600	D
D	160.0	construction timber (60/160; e=625)	0.120	50	450	1.600	D
E	320.0	mineral wool [034; 18; <1000°C]	0.034	1	18	1.030	A1
F	100.0	cross laminated timber $\geq 94,0$ ; at least 3-layers, top layer at least 30mm)	0.130	50	500	1.600	D
G	80.0	spruce wood Battens on resilient clips (50/80; e=625)	0.120	50	450	1.600	D
H	80.0	mineral wool [034; 18; <1000°C]	0.034	1	18	1.030	A1
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

OI3 <sub>Kon</sub>	48.7
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		0.257	0.113	4,31E-6	0.062	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	141.078	1294.746	1435.824	820.257	34.200	854.457