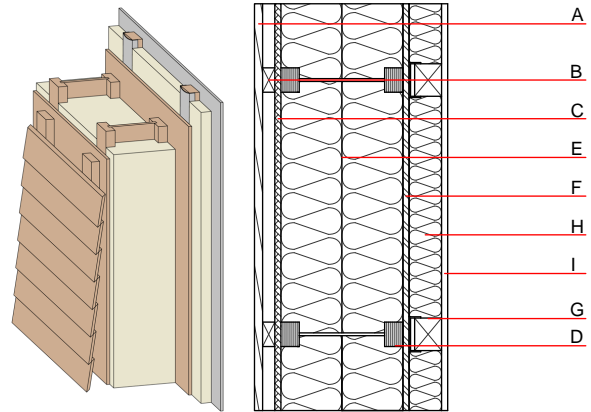


External wall - awshhi01a-01

external wall, timber frame construction, ventilated, with dry lining, with cladding, other surface

Performance rating

Fire protection performance	REI from inside	60
maximum ceiling height = 3 m; maximum load $E_{d,fi} = 22,5 \text{ kN/lm}$ Classified by HFA		
Thermal performance	U	0.11 W/(m ² 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}) L_{n,w} (C_i)	55 dB
without resilient clips $R_w \geq 52 \text{ dB}$ Assessed by HFA		
Mass per unit area	m	69.90 kg/m ²
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
			λ	$\mu \text{ min} - \text{max}$	ρ	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	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	15.0	OSB	0.130	200	600	1.700	D
G	80.0	spruce wood battens on resilient clips (50/80; $e=625$)	0.120	50	450	1.600	D
H	80.0	Wood fibre insulation [039; 45]	0.039	1 - 2	45	2.100	E
I	15.0	gypsum plaster board type DF or	0.250	10	800	1.050	A2
I	15.0	gypsum fibre board	0.320	21	1000	1.100	A2

Sustainability rating (per m²)

Database ecoinvent

OI3_{Kon}	26.9
Calculated with gypsum plaster fire protection board (GKF/DF) Calculated by HFA	

Details of sustainability rating

Database ecoinvent

Lifecycle (Phases)	GWP [kg CO ₂ -e.]	AP [kg SO ₂ -e.]	EP [kg PO ₄ -e.]	ODP [kg R11-e.]	POCP [kg Ethen-e.]	
A1 - A3		0.134	0.060	2,52E-6	0.025	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	134.091	943.902	1077.993	512.215	57.986	570.201