

External wall - awrho13a-02

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

Performance rating

Fire protection performance	REI from inside	60
	REI from outside	60

maximum ceiling height = 3 m; maximum load $E_{d,fi} = 23,4 \text{ kN/m}$
 Classified by HFA

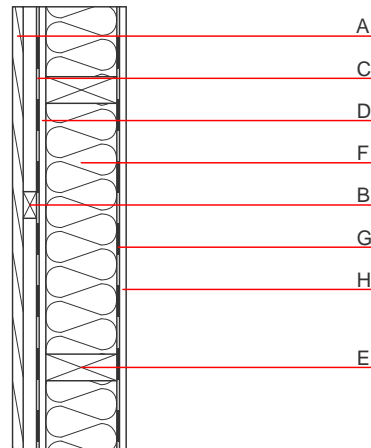
Thermal performance	U	0.26 W/(m ² K)
	Diffusion	suitable

Calculated by IBO

Acoustic performance	$R_w (C;C_{tr})$	43 dB
	$L_{n,w} (C_i)$	

The acoustic insulation assessment is based on a length-related flow resistance of $r \geq 5 \text{ kPa.s/m}^2$. If this value is lower for the insulation material used, the R_w value is reduced by 3dB.
 Assessed by TGM

Mass per unit area	m	57.40 kg/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
			λ	μ min - max	ρ	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	15.0	Rigips Riduro	0.250	4 - 10	1000	1.050	A2
E	160.0	construction timber (60/...; e=625)	0.120	50	450	1.600	D
F	160.0	Hemp insulation [040; 30]	0.040	1 - 2	30	2.200	E
G		vapour barrier $sd \geq 2m$			1000		
H	15.0	Rigips Riduro	0.250	4 - 10	1000	1.050	A2

Sustainability rating (per m²)

Database ecoinvent

013_{kon}	15.6
-------------	------

Calculated by IBO

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		0.071	0.034	1,79E-6	0.016	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	76.371	475.413	551.784	298.377	19.006	317.383