

External wall - awmopi01a-08

external wall, solid wood construction, not ventilated, with dry lining, with rendering, other surface

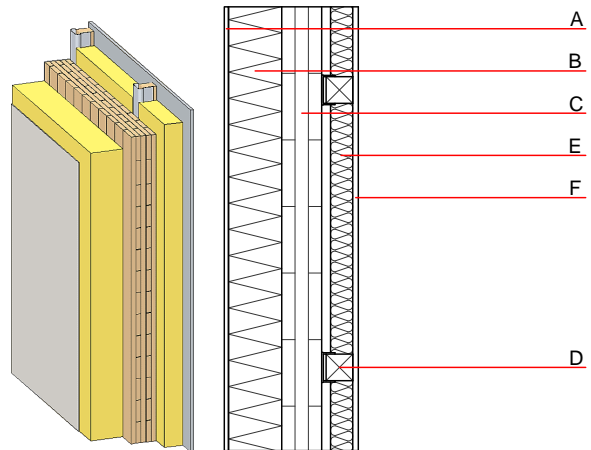
Performance rating

Fire protection performance	REI from inside	60
	REI from outside	90
maximum ceiling height = 3 m; maximum load $E_{d,fi} = 35,0 \text{ kN/m}$ Classified by HFA		

Thermal performance	U	0.14 $\text{W}/(\text{m}^2\text{K})$
	Diffusion	suitable
Calculated by HFA		

Acoustic performance	$R_w (C;C_{tr})$	49 dB
	$L_{n,w} (C_i)$	
Assessed by TU-GRAZ		

Mass per unit area	m	87.50 kg/m^2
Calculation based on gypsum plaster board type DF		



Note: Attention: REI90 (from inside) in Germany possible with 2x12,5mm gypsum plaster board type DF/gypsum fibre board cross laminated timber 5-layers

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	7.0	plaster	1.000	10 - 35	2000	1.130	A1
B	180.0	mineral wool MW-PT [035; 130] ETICS insulation panel	0.035	1	130	1.030	A1
C	90.0	cross laminated timber	0.130	50	500	1.600	D
D	70.0	spruce wood battens (60/60) mounted on resilient clips; e=660	0.120	50	450	1.600	D
E	50.0	mineral wool [040; ≥ 16 ; $< 1000^\circ\text{C}$]	0.040	1	16	1.030	A1
F	12.5	gypsum plaster board type DF or	0.250	10	800	1.050	A2
F	12.5	gypsum fibre board	0.320	21	1000	1.100	A2

Sustainability rating (per m^2)

Database ecoinvent

$OI3_{kon}$ 81.4

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 ₂ -e.]	AP [kg SO ₂ -e.]	EP [kg PO ₄ -e.]	ODP [kg R11-e.]	POCP [kg Ethen-e.]	
A1 - A3		0.385	0.122	4,02E-6	0.144	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	52.934	628.569	681.503	899.795	15.137	914.932