

## Internal wall - iwmxo01a-00

internal wall, solid wood construction, without dry lining, wooden surface

### Performance rating

**Fire protection performance** REI 60  
 maximum ceiling height = 3 m; maximum load  $E_{d,fi} = 35,0 \text{ kN/m}$   
 Classified by MA39  
 Classified by HFA

#### Germany

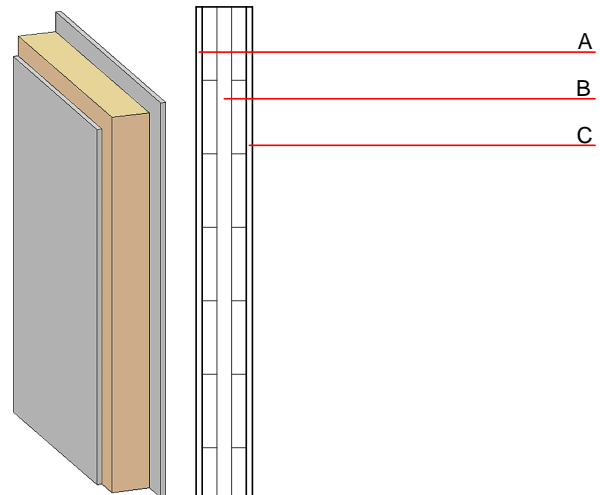
REI60  
 Load  $E_{d,fi}$  according to the German certification document  
 Corresponding proof: manufacturer-specific

**Acoustic performance**  $R_w (C; C_{tr})$  38(-2;-5) dB  
 $L_{n,w} (C_i)$

Assessed by TU-GRAZ  
 Assessed by Müller-BBM

**Mass per unit area** m 65.00 kg/m<sup>2</sup>

Calculation based on gypsum plaster board type DF



**Note:** The fire resistance is only valid when wall is used as partition with only one side exposed to fire.

**Cross laminated timber:**

**Var. 00:** thickness  $\geq 78\text{mm}$ ; 3-ply at least, surface layer at least 25 mm

**Var. 01:** thickness  $\geq 94\text{mm}$ ; 3-ply at least, surface layer at least 30 mm

### 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
			$\lambda$	$\mu \text{ min} - \text{max}$	$\rho$	c	
A	12.5	gypsum plaster board type DF / gypsum fibre board	0.250	10	800	1.050	A2
B	90.0	solid wood e.g. cross laminated timber	0.130	50	500	1.600	D
C	12.5	gypsum plaster board type DF / gypsum fibre board	0.250	10	800	1.050	A2

### Sustainability rating (per m<sup>2</sup>)

#### Database ecoinvent

OL3<sub>kon</sub> 20.3  
 Calculated by HFA

#### Database GaBi (ÖKOBAUDAT)

**Built-in renewable materials** kg 44.050  
**Biogenic carbon in kg CO<sub>2</sub>-e.** kg CO<sub>2</sub> 63.410  
**Energy use of Primary Energy** MJ 512.710  
**Share of renewable PE** % 35.910

Calculated by TUM

## 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	-43.517	0.107	0.043	2,19E-6	0.008	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	28.198	629.226	657.424	378.826	18.947	397.773

### Database GaBi (ÖKOBAUDAT)

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	-54.292	0.060	0.012	2,28E-6	0.012	
C1 - C4	72.724	0.002	0.000	1,48E-7	0.000	
A1 - C4	19.156	0.066	0.013	2,44E-6	0.012	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	182.890	756.450	937.530	304.670	8.690	312.860
C1 - C4	0.480	-746.100	-745.620	13.450	0.000	13.450
A1 - C4	184.130	10.870	193.200	328.580	8.790	336.870