

## Internal wall - iwmxo01 a-01

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

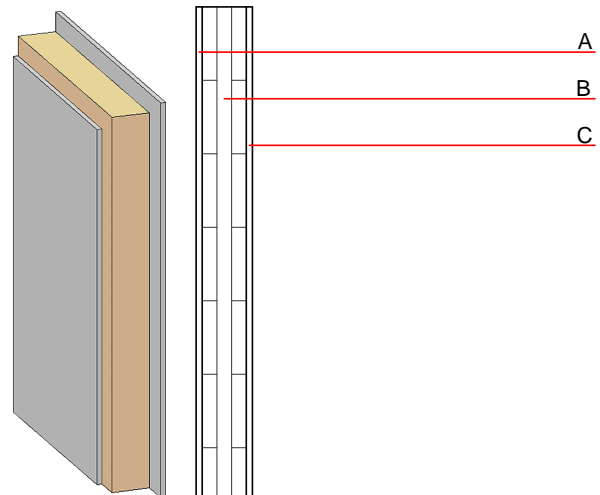
Load  $E_{d,fi}$  according to the German certification document  
 Corresponding proof: manufacturer-specific

**Acoustic performance**  $R_w (C; C_{tr})$  33(-1;-4) dB  
 $L_{n,w} (C_i)$

Assessed by TU-GRAZ  
 Assessed by Müller-BBM

**Mass per unit area** m 50.00 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 without gypsum board lining

### 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		without gypsum board lining					
B	100.0	solid wood e.g. cross laminated timer	0.130	50	500	1.600	D
C		without gypsum board lining					

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

#### Database ecoinvent

$O13_{kon}$  17.4

Calculated by HFA

#### Database GaBi (ÖKOBAUDAT)

Built-in renewable materials	kg	49.940
Biogenic carbon in kg CO <sub>2</sub> -e.	kg CO <sub>2</sub>	70.450
Energy use of Primary Energy	MJ	474.880
Share of renewable PE	%	40.740

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	-52.412	0.107	0.043	1,74E-6	0.007	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	25.232	684.000	709.232	337.342	17.181	354.523

**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	-63.200	0.058	0.011	2,51E-6	0.012	
C1 - C4	79.344	0.001	0.000	1,19E-7	0.000	
A1 - C4	16.144	0.059	0.011	2,63E-6	0.012	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	193.000	829.000	1020.000	272.000	7.560	279.000
C1 - C4	0.471	-829.000	-828.529	9.406	0.000	9.406
A1 - C4	193.471	0.000	191.471	281.406	7.560	288.406