

Internal wall - iwmxxi03a-01

internal wall, solid wood construction, with dry lining, other surface

Performance rating

Fire protection performance REI 60
 maximum ceiling height = 3 m; maximum load $E_{d,fi} = 32 \text{ kN/m}$
 Classified by HFA

Germany

REI 30

Load $E_{d,fi}$ according to the German certification document

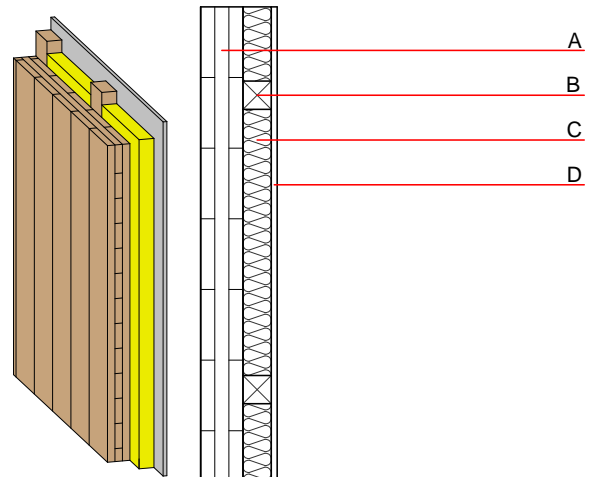
Corresponding proof: manufacturer-specific

Acoustic performance $R_w (C; C_{tr})$ 36(-2;-5) dB
 $L_{n,w} (C_i)$

Assessed by Müller-BBM

Mass per unit area m 62.30 kg/m²

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.

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	94.0	cross laminated timber	0.130	50	500	1.600	D
B	60.0	spruce wood battens (60/60; e=625)	0.120	50	450	1.600	D
C	60.0	Cellulose fibre [040; 50]	0.040	1	50	2.000	E
D	12.5	gypsum plaster board type DF or	0.250	10	800	1.050	A2
D	12.5	gypsum fibre board	0.320	21	1000	1.100	A2

Sustainability rating (per m²)

Database ecoinvent

OI3_{Kon} 19.5

Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials	kg	52.420
Biogenic carbon in kg CO ₂ -e.	kg CO ₂	74.870
Energy use of Primary Energy	MJ	519.520
Share of renewable PE	%	39.06

Calculated by TUM

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		0.115	0.048	2,07E-6	0.036	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	35.980	720.540	756.520	378.145	16.150	394.295

Database GaBi (ÖKOBAUDAT)

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		0.064	0.013	2,42E-6	0.013	
C1 - C4		0.003	0.002	1,46E-7	0.000	
A1 - C4		0.069	0.015	2,58E-6	0.013	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	202.040	879.260	1079.250	298.090	8.050	305.620
C1 - C4	0.520	-829.500	-828.980	13.240	0.000	13.240
A1 - C4	202.950	50.020	250.920	316.570	8.100	324.140