

Internal wall - iwrxo01a-04

internal wall, timber frame construction, without dry lining, other surface

Performance rating

Fire protection performance REI 30

maximum ceiling height = 3 m; maximum load $E_{d,fi} = 19,2 \text{ kN/m}$
 Classified by MA39
 Classified by HFA

Germany

F30

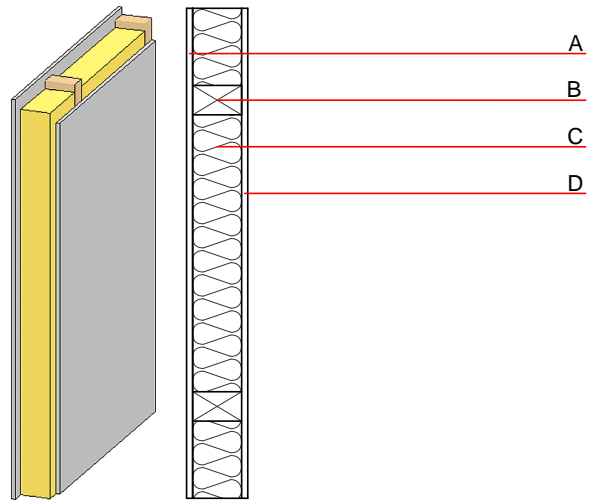
Load $E_{d,fi}$ according to the German certification document
 Corresponding proof: manufacturer-specific

Acoustic performance $R_w (C; C_{tr})$ 38(-3;-8) dB
 $L_{n,w} (C_i)$

Assessed by Müller-BBM

Mass per unit area m 28.80 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.
 (B=60/100); e=625

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	12.5	gypsum plaster board type DF	0.250	10	800	1.050	A2
A	12.5	gypsum fibre board	0.320	21	1000	1.100	A2
B	100.0	construction timber (60/100 or 60/160; e=*)	0.120	50	450	1.600	D
C	100.0	Cellulose fibre [040; 50]	0.040	1	50	2.000	E
D	12.5	gypsum plaster board type DF	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

$OI3_{kon}$ 7.8
 Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials kg 10.610
Biogenic carbon in kg CO₂-e. kg CO₂ 14.270
Energy use of Primary Energy MJ 142.440
Share of renewable PE % 25.98

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		0.033	0.014	8,40E-7	0.005	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	23.340	129.300	152.640	126.561	0.000	126.561

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		0.018	0.004	1,80E-7	0.002	
C1 - C4		0.004	0.004	6,33E-8	0.000	
A1 - C4		0.025	0.008	2,58E-7	0.003	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	36.105	166.714	203.224	86.830	1.934	88.810
C1 - C4	0.145	-81.676	-81.531	8.142	-0.050	8.090
A1 - C4	37.008	85.557	122.969	105.430	1.988	107.460