

Internal wall - iwrxo10b-00

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

Performance rating

Fire protection performance REI 90/K₂60

REI 90, maximum ceiling height = 3 m; maximum load E_{d,fi} = 19,0 kN/m
 Classified by HFA

Germany

F90 + K260

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

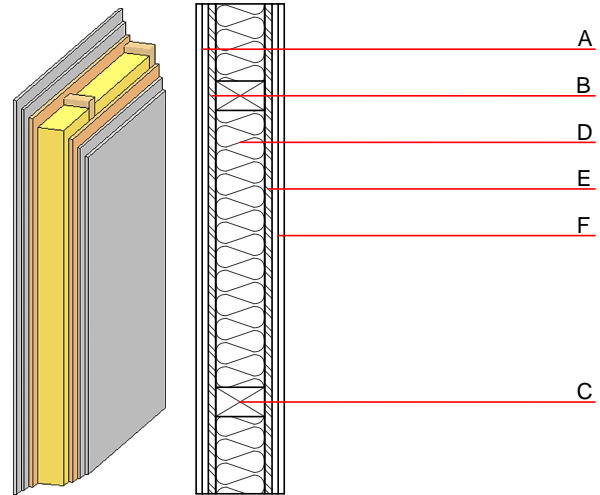
Corresponding proof: manufacturer-specific

Acoustic performance R_w (C;C_{tr}) 56 dB
 L_{n,w} (C)

Assessed by Müller-BBM

Mass per unit area m 94.60 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	μ min – max	ρ	c	
A	36.0	gypsum plaster board type DF (2x18mm) or	0.250	10	800	1.050	A2
A	36.0	gypsum fibre board (2x18mm)	0.320	21	1000	1.100	A2
B	22.0	OSB	0.130	200	600	1.700	D
C	120.0	construction timber	0.120	50	450	1.600	D
D	120.0	mineral wool [040; 30; ≥1000°C]	0.040	1	30	1.030	A1
E	22.0	OSB	0.130	200	600	1.700	D
F	36.0	gypsum plaster board type DF (2x18mm) or	0.250	10	800	1.050	A2
F	36.0	gypsum fibre board (2x18mm)	0.320	21	1000	1.100	A2

Sustainability rating (per m²)

Database ecoinvent

OI₃_{con} 34.6

Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials kg 28.480
Biogenic carbon in kg CO₂-e. kg CO₂ 43.510
Energy use of Primary Energy MJ 740.940
Share of renewable PE % 19.66

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		0.136	0.050	3,15E-6	0.036	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	118.514	524.111	642.625	553.878	31.800	585.679

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		0.109	0.018	5,33E-7	0.031	
C1 - C4		0.006	0.002	1,39E-7	0.001	
A1 - C4		0.124	0.022	7,16E-7	0.033	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	142.116	513.484	656.062	543.112	27.101	570.268
C1 - C4	1.251	-492.120	-490.872	19.820	-16.072	3.747
A1 - C4	145.672	22.398	168.529	595.265	11.333	606.654