

Internal wall - iwrxxo01b-08

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

Performance rating

Fire protection performance REI 60

maximum ceiling height = 3 m; maximum load $E_{d,fi}$ = 50 kN/m

Classified by HFA

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Germany

F30/F60 (depending on the corresponding proof)

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

Corresponding proof: F30: DIN 4102-4:2016-05, Tabelle 10.5, Zeile 5; F60:

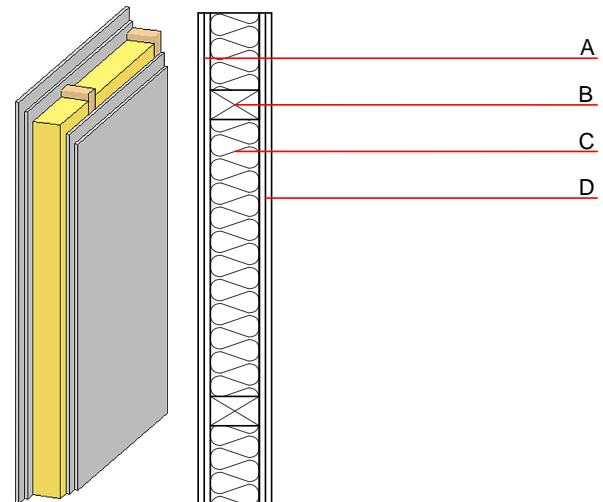
DIN 4102-4:2016-05, Tabelle 10.5, Zeile 10 (if gypsum plaster board type DF or gypsum fibre board 15 mm inside) or manufacturer-specific

Acoustic performance R_w (C; C_{tr}) 43(-1;5) dB
 $L_{n,w}$ (C_i)

Assessed by Müller-BBM

Mass per unit area m 48.40 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	
			λ	μ min – max	ρ	c	EN	
A	25.0	gypsum plaster board type DF (2x12,5 mm) or	0.250	10	800	1.050	A2	
A	25.0	gypsum fibre board (2x12,5 mm)	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	Wood fibre insulation [039; 45]	0.039	1 - 2	45	2.100	E	
D	25.0	gypsum plaster board type DF (2x12,5 mm) or	0.250	10	800	1.050	A2	
D	25.0	gypsum fibre board (2x12,5 mm)	0.320	21	1000	1.100	A2	

Sustainability rating (per m²)

Database ecoinvent

OI3_{Kon} 13.1

Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials	kg	10.610
Biogenic carbon in kg CO ₂ -e.	kg CO ₂	14.270
Energy use of Primary Energy	MJ	246.820
Share of renewable PE	%	19.70

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		0.045	0.021	1,51E-6	0.008	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	37.950	192.537	230.487	235.032	6.584	241.617