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Designation: gdrnxa05b-10
Last updated: 8/2/23
Source: Holzforschung Austria
Editor: HFA, PLB

Intermediate floor - gdrnxa05b-10

intermediate floor, timber frame construction, suspended, wet, without filling, other surface

Performance rating

Fire protection performance	**REI**	60

maximum span = 5 m; maximum load $E_{d,fi}$ = 3,66 kN/m² (without floor construction and 12mm OSB; with ceiling beam 80/200)
Classified by HFA
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Germany

F60

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

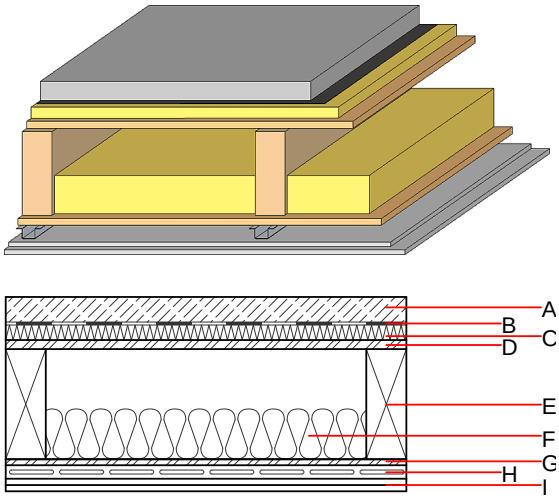
Corresponding proof: DIN 4102-4:2016-05, Tabelle 10.12, Zeile 4

Thermal performance	**U**	
	Diffusion	suitable
Acoustic performance	**R_w ($C;C_{tr}$)**	58(-1;-7) dB
	$L_{n,w}$ (C_I)	60(0)

Assessed by Müller-BBM

Mass per unit area	**m**	170.70 kg/m²

Calculation based on gypsum plaster board type DF



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	50.0	anhydrite screed or cement screed	0.700	10	2200	1.300	A1
B		plastic separation layer	0.200	100000	1400	1.400	E
C	30.0	impact sound absorbing subflooring MW-T	0.035	1	68	1.030	A1
D	22.0	OSB	0.130	200	600	1.700	D
E	220.0	construction timber (80/..; e=625)	0.120	50	450	1.600	D
F	100.0	Wood fibre insulation [039; 45]	0.039	1 - 2	45	2.100	E
G	12.0	OSB	0.130	200	600	1.700	D
H	27.0	resilient channel					
I	25.0	gypsum plaster board type DF (2x12,5 mm) or	0.250	10	800	1.050	A2
I	25.0	gypsum fibre board (2x12,5 mm)	0.320	21	1000	1.100	A2

Sustainability rating (per m²)

Database ecoinvent

$OI3_{Kon}$	44.0

Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials	**kg**	39.080
Biogenic carbon in kg CO_2-e.	**kg CO_2**	58.650
Energy use of Primary Energy	**MJ**	977.620
Share of renewable PE	**%**	26.45

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		0.176	0.084	3,20E-6	0.031	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	133.055	562.700	695.755	640.239	28.395	668.635

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		0.158	0.025	7,87E-7	0.037	
C1 - C4		0.010	0.003	7,77E-8	0.001	
A1 - C4		0.173	0.030	8,79E-7	0.038	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	256.152	823.665	1080.944	690.729	45.150	736.015
C1 - C4	1.663	-812.572	-809.771	17.685	-29.896	3.389
A1 - C4	258.574	11.611	272.935	719.045	15.358	758.279