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Designation: gdrnxa07a-12
Last updated: 8/2/23
Source: Holzforschung Austria
Editor: HFA, SP

Intermediate floor - gdrnxa07a-12

intermediate floor, timber frame construction, suspended, wet, with filling, other surface

Performance rating

Fire protection performance — **REI** — 30

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

F30

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

Corresponding proof: DIN 4102-4:2016-05, Tabelle 10.12, Zeile 1

Thermal performance — **U**

Diffusion — suitable

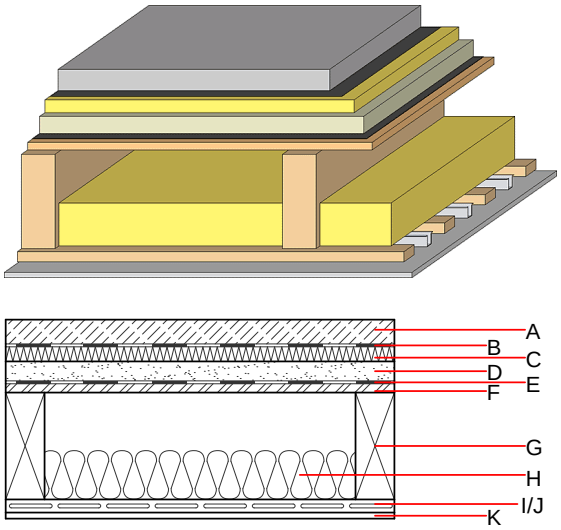
Calculated by HFA

Acoustic performance — R_w ($C;C_{tr}$) — 68(-1;-6) dB
$L_{n,w}$ (C_I) — 43(2)

Assessed by Müller-BBM

Mass per unit area — **m** — 197.70 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	cement screed or anhydrite screed	1.330	50 - 100	2000	1.080	A1
B		plastic separation layer	0.200	100000	1400	1.400	E
C	40.0	impact sound absorbing subflooring MW-T [s'=10 MN/m³]	0.035	1	68	1.030	A1
D	30.0	fill loose	0.700	1	1800	1.000	A1
E		trickling protection					E
F	18.0	OSB	0.130	200	600	1.700	D
G	220.0	construction timber (80/..; e=625)	0.120	50	450	1.600	D
H	100.0	Wood fibre insulation [039; 45]	0.039	1 - 2	45	2.100	E
I	24.0	spruce wood cladding with spacing of cladding boards(24/100); a=400	0.120	50	450	1.600	D
J	27.0	resilient channel placed between cladding with spacing	0.156				
K	12.5	gypsum plaster board type DF or	0.250	10	800	1.050	A2
K	12.5	gypsum fibre board	0.320	21	1000	1.100	A2

Sustainability rating (per m²)

Database ecoinvent

$OI3_{Kon}$ — 39.5

Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials	kg	32.390
Biogenic carbon in kg CO_2-e.	kg CO_2	48.080
Energy use of Primary Energy	MJ	877.880
Share of renewable PE	%	27.37

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		0.160	0.077	2,76E-6	0.029	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	114.418	527.058	641.477	568.510	27.408	595.918

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		0.149	0.024	8,27E-7	0.027	
C1 - C4		0.015	0.004	6,48E-8	0.002	
A1 - C4		0.168	0.029	8,99E-7	0.028	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	237.153	703.299	941.878	604.011	65.876	670.023
C1 - C4	2.716	-697.178	-693.323	28.158	-23.154	20.604
A1 - C4	240.250	6.379	249.679	637.628	42.774	704.279