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Designation: gdrnxa10b-03
Last updated: 8/2/23
Source: Holzforschung Austria
Editor: HFA, SP

Intermediate floor - gdrnxa10b-03

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, with ceiling beam 80/200)
Classified by HFA

Germany

F60

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

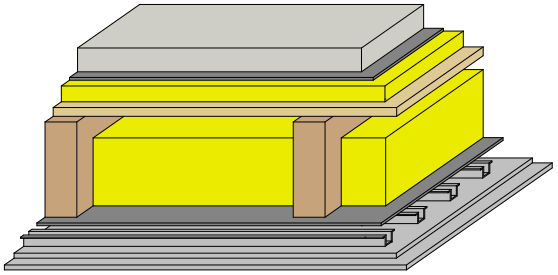
Corresponding proof: DIN 4102-4:2016-05, Tabelle 10.12, Zeile 4

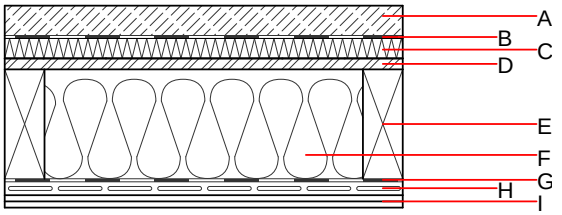
Thermal performance — **U**
Diffusion

Acoustic performance — R_w ($C;C_{tr}$) 74(-1;-6) dB
$L_{n,w}$ (C_I) 51(2)

Assessed by Müller-BBM

Mass per unit area — **m** — 188.90 kg/m²





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	60.0	anhydrite screed or cement screed	0.700	10	2200	1.300	A1
B	0.2	plastic separation layer	0.200	100000	1400	1.400	E
C	40.0	impact sound absorbing subflooring MW [s' =7 MN/m²]	0.033	1	30	0.030	A1
D	22.0	OSB	0.130	200	600	1.700	D
E	240.0	construction timber (80/..; e=625)	0.120	50	450	1.600	D
F	200.0	mineral wool [040; 11; <1000°C]	0.040	1	11	1.030	A1
G	0.2	trickling protection					E
H	27.0	resilient channel	0.156				
I	36.0	gypsum plaster board type DF (2x...mm)	0.250	10	800	1.050	A2

Sustainability rating (per m²)

Database ecoinvent

$OI3_{Kon}$ — 50.7

Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials	**kg**	24.490
Biogenic carbon in kg CO_2-e.	**kg CO_2**	36.880
Energy use of Primary Energy	**MJ**	771.220
Share of renewable PE	**%**	18.30

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		0.192	0.093	3,62E-6	0.032	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	120.993	466.453	587.446	710.334	23.545	733.878

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		0.178	0.026	9,16E-7	0.026	
C1 - C4		0.012	0.005	9,40E-8	0.002	
A1 - C4		0.199	0.034	1,03E-6	0.027	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	139.028	435.483	575.427	598.419	36.377	634.906
C1 - C4	0.915	-423.099	-420.818	14.574	-9.389	23.905
A1 - C4	141.101	12.901	156.867	630.121	27.140	685.860