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Designation: gdmnxa01a-00
Last updated: 8/2/23
Source: Holzforschung Austria
Editor: HFA, SP

Intermediate floor - gdmnxa01a-00

intermediate floor, solid wood construction, suspended, wet, with filling, other surface

Performance rating

Fire protection performance — **REI** — 60

maximum span = 5 m; maximum load $E_{d,fi}$ = 5 kN/m²; also REI 60 without 12,5 mm gypsum plaster board type DF or gypsum fibre board
Classified by HFA

Germany

REI90 (if cross laminated timber ≥140 mm and suspension ≥85mm)

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

Corresponding proof: manufacturer-specific

Thermal performance — **U** — 0.29 W/(m²K)
Diffusion — suitable

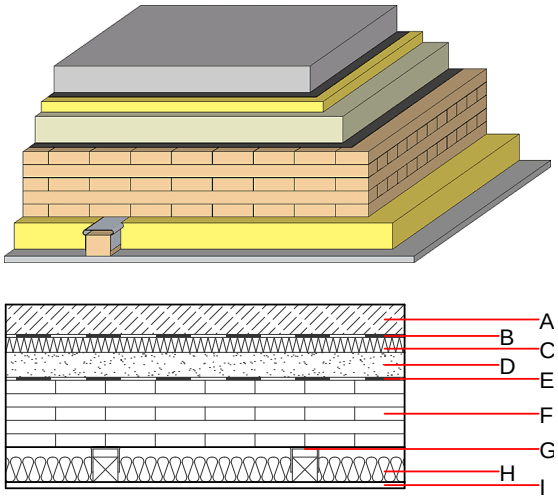
Calculated by HFA

Acoustic performance — **R_w ($C;C_{tr}$)** — 79(-7;-16) dB
$L_{n,w}$ (C_I) — 44(1)

Assessed by Müller-BBM

Mass per unit area — **m** — 271.20 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	30.0	impact sound absorbing subflooring MW-T [s'=10 MN/m³]	0.035	1	68	1.030	A1
D	50.0	elastic bonded fill elastic bonded, m' = 75kg/m²	0.700	1	1500	1.000	A1
E		trickling protection					E
F	140.0	solid glued wood (e.g. cross laminated timber); ≥ 134,0; at least 5-layers, top layer at least 26 mm)	0.130	50	500	1.600	D
G	70.0	spruce wood battens (40/50) mounted on resilient clips	0.120	50	450	1.600	D
H	50.0	mineral wool [040; ≥16; <1000°C]	0.040	1	16	1.030	A1
I	12.5	gypsum plaster board type DF or	0.250	10	800	1.050	A2
I	12.5	gypsum fibre board	0.320	21	1000	1.100	A2

Sustainability rating (per m²)

Database ecoinvent

$OI3_{Kon}$ — 50.8

Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials	**kg**	71.310
Biogenic carbon in kg CO_2-e.	**kg CO_2**	102.710
Energy use of Primary Energy	**MJ**	1003.490
Share of renewable PE	**%**	31.45

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		0.232	0.105	4,05E-6	0.060	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	59.948	942.765	1002.713	795.281	30.667	825.948

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		0.161	0.028	3,80E-6	0.022	
C1 - C4		0.019	0.004	1,97E-7	0.002	
A1 - C4		0.184	0.033	4,00E-6	0.024	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	312.074	1214.993	1524.094	642.547	54.077	695.840
C1 - C4	3.187	-1208.832	-1204.505	39.588	0.000	55.188
A1 - C4	315.644	6.420	320.715	687.850	54.129	764.935