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Designation: gdrtxa03b-04
Last updated: 8/2/23
Source: Holzforschung Austria
Editor: HFA, SP

Intermediate floor - gdrtxa03b-04

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

Performance rating

Fire protection performance	**REI**	60

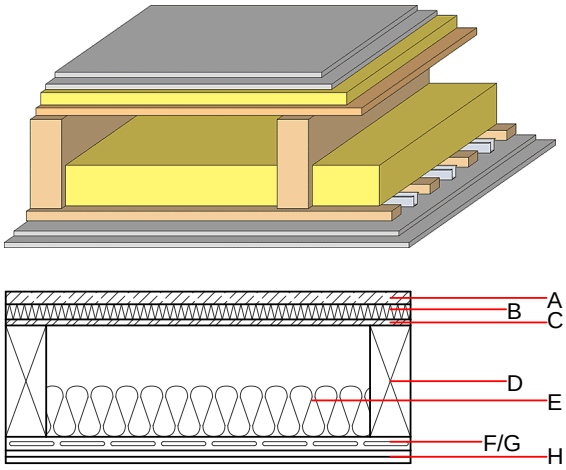
maximum span = 5 m; maximum load $E_{d,fi}$ = 3,66 kN/m²
Classified by HFA

Germany

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

Thermal performance	**U**	0.26 W/(m²K)
	Diffusion	suitable
Acoustic performance	**R_w (C_i;C_{tr})**	64(-3;-10) dB
	$L_{n,w}$ (C_I)	52(2)
Mass per unit area	**m**	74.50 kg/m²

Calculation based on gypsum plaster board type DF



Note: 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	dry screed	0.210	8	900	1.050	A1
B	30.0	impact sound absorbing subflooring MW-T	0.035	1	68	1.030	A1
C	18.0	OSB	0.130	200	600	1.700	D
D	220.0	construction timber (80/..; e=625) (80/..; e=*)	0.120	50	450	1.600	D
E	100.0	mineral wool [038; ≥33; ≥1000°C]	0.038	1	33	1.030	A1
F	24.0	spruce wood cladding with spacing of cladding boards(24/100); a=400	0.120	50	450	1.600	D
G	27.0	resilient channel (placed between open formwork)	0.156				
H	25.0	gypsum plaster board type DF (2x12,5 mm) or	0.250	10	800	1.050	A2
H	25.0	gypsum fibre board (2x12,5 mm)	0.320	21	1000	1.100	A2

Sustainability rating (per m²)

Database ecoinvent

$OI3_{Kon}$	37.0

Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials	**kg**	27.590
Biogenic carbon in kg CO_2-e.	**kg CO_2**	41.210
Energy use of Primary Energy	**MJ**	679.370
Share of renewable PE	**%**	21.27

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		0.162	0.055	2,36E-6	0.054	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	91.709	406.419	498.128	483.595	16.832	500.426

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		0.122	0.019	8,44E-7	0.022	
C1 - C4		0.006	0.003	8,38E-8	0.001	
A1 - C4		0.131	0.023	9,43E-7	0.023	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	142.210	488.396	632.033	505.574	19.562	525.272
C1 - C4	1.515	-476.814	-475.299	18.177	-7.731	10.446
A1 - C4	144.488	12.101	158.015	534.886	11.936	546.957