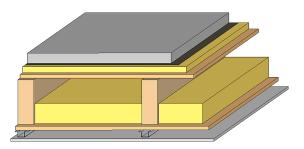## Intermediate floor - gdrnxa05a-05

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

Performance rating
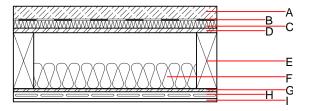
Fire protection performance   REI   30

maximum span = 5 m; maximum load $E_{d,fi}$ = 2,62 kN/m² (without floor construction and 12mm OSB; with ceiling beam 60/200)
Classified by IBS
Classified by HFA

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	0.26 W/(m²K)
	Diffusion	suitable

Acoustic performance	R_w (C;C$_{tr}$)	59(-2;-8) dB
	$L_{n,w}$ (C$_I$)	61(0)

Assessed by TU-GRAZ
Assessed by Müller-BBM

Mass per unit area	m	159.00 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	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	18.0	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	cellulose fibre [0,040; R=55]	0.040	1 - 2	55	2.000	B
G	12.0	OSB	0.130	200	600	1.700	D
H	27.0	resilient channel					
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$_{Kon}$	37.1

Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials	kg	37.550
Biogenic carbon in kg CO₂-e.	kg CO₂	55.180
Energy use of Primary Energy	MJ	662.700
Share of renewable PE	%	22.53

Calculated by TUM

dataholz.eu

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		0.157	0.074	2,61E-6	0.028	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	124.327	567.089	691.416	539.306	25.504	564.810

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		0.127	0.019	7,13E-7	0.028	
C1 - C4		0.010	0.006	6,67E-8	0.001	
A1 - C4		0.142	0.025	7,87E-7	0.029	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	147.918	628.668	777.732	497.471	27.100	524.706
C1 - C4	1.018	-550.722	-548.566	10.509	-12.787	13.322
A1 - C4	149.316	78.205	230.290	513.383	14.364	551.623

dataholz.eu – Catalogue of timber building materials, components and component connections reviewed to consider thermal, acoustic, fire performance requirements and ecological drivers for timber construction released by accredited testing institutes.
These datasheets will generally be accepted as proofs of compliance by building authorities.

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