Intermediate floor - gdrtxa03b-05

intermediate floor, timber frame construction, suspended, dry, without filling, Gipsplatte

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;C$_{tr}$)**	64(-3;-10) dB
	$L_{n,w}$ (C$_I$)	52(2)
Mass per unit area	**m**	79.00 kg/m²

Calculation based on gypsum plaster board type DF
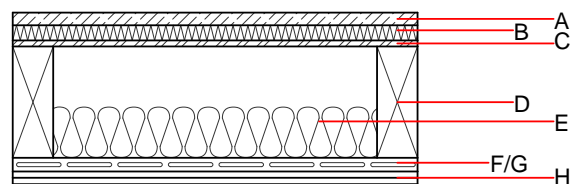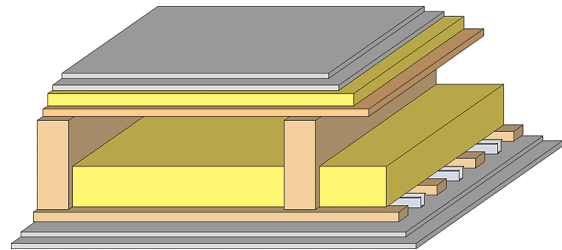
Note: e=625;

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	22.0	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	cellulose fibre [040; E]	0.040	1 - 2	55	2.000	E
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$_{Kon}$	30.5

Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials	kg	33.260
Biogenic carbon in kg CO₂-e.	kg CO₂	48.320
Energy use of Primary Energy	MJ	647.200
Share of renewable PE	%	22.42

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Details of sustainability rating

Database ecoinvent

Lifecycle	GWP	AP	EP	ODP	POCP	
(Phases)	[kg CO$_2$-e.]	[kg SO$_2$-e.]	[kg PO$_4$-e.]	[kg R11-e.]	[kg Ethen-e.]	
A1 - A3		0.135	0.050	2,30E-6	0.038	

Lifecycle	PERE	PERM	PERT	PENRE	PENRM	PENRT
(Phases)	[MJ]	[MJ]	[MJ]	[MJ]	[MJ]	[MJ]
A1 - A3	93.447	449.878	543.324	437.924	16.832	454.755

Database GaBi (ÖKOBAUDAT)

Lifecycle	GWP	AP	EP	ODP	POCP	
(Phases)	[kg CO$_2$-e.]	[kg SO$_2$-e.]	[kg PO$_4$-e.]	[kg R11-e.]	[kg Ethen-e.]	
A1 - A3		0.104	0.017	7,37E-7	0.021	
C1 - C4		0.007	0.005	9,34E-8	0.001	
A1 - C4		0.114	0.023	8,45E-7	0.022	

Lifecycle	PERE	PERM	PERT	PENRE	PENRM	PENRT
(Phases)	[MJ]	[MJ]	[MJ]	[MJ]	[MJ]	[MJ]
A1 - A3	142.854	559.906	704.206	471.970	15.285	487.391
C1 - C4	1.513	-476.814	-475.302	19.476	-7.731	11.746
A1 - C4	145.127	83.611	230.182	502.078	7.658	509.872

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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