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Designation: ddrxxa01a-04
Last updated: 8/2/23
Source: Holzforschung Austria
Editor: HFA, PLB

Floor towards attic (uninhabitable) - ddrxxa01a-04

floor towards attic (uninhabitable), timber frame construction, suspended, dry, Gipsplatte

Performance rating

Fire protection performance	**REI**	30

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

Germany

F30 (from below/from above)

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

Corresponding proof: DIN 4102-4:2016-05, Tabelle 10.12, Zeile 1 in conjunction with 10.7.5 (to attic no floating screed necessary)

Thermal performance	**U**	0.19 W/(m²K)
	Diffusion	suitable

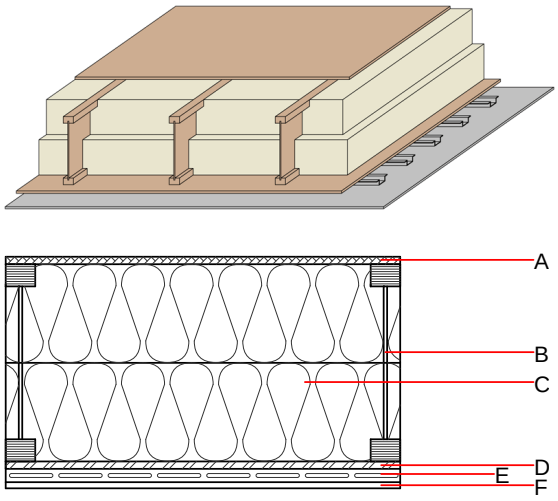
Calculated by TUM

Acoustic performance	**R_w ($C;C_{tr}$)**	43(-3;-11) dB
	$L_{n,w}$ (C_I)	75(0)

Assessed by Müller-BBM

Mass per unit area	**m**	44.10 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	16.0	fibreboard (MDF)	0.140	11	600	1.700	D
B	220.0	construction timber	0.120	50	450	1.600	D
C	220.0	mineral wool [040; 11; <1000°C]	0.040	1	11	1.030	A1
D	15.0	OSB	0.130	200	600	1.700	D
E	27.0	metal rail					
F	12.5	gypsum plaster board type DF or	0.250	10	800	1.050	A2
F	12.5	gypsum fibre board	0.320	21	1000	1.100	A2

Sustainability rating (per m²)

Database ecoinvent

$OI3_{Kon}$	23.0

Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials	**kg**	34.680
Biogenic carbon in kg CO_2-e.	**kg CO_2**	50.200
Energy use of Primary Energy	**MJ**	621.820
Share of renewable PE	**%**	25.34

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		0.106	0.047	1,70E-6	0.018	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	82.025	476.411	558.436	357.705	30.095	387.800

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		0.118	0.019	1,68E-6	0.024	
C1 - C4		0.002	0.002	7,51E-8	0.000	
A1 - C4		0.122	0.022	1,76E-6	0.025	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	156.465	583.923	741.835	448.276	32.818	481.230
C1 - C4	0.709	-578.440	-577.732	9.648	-22.466	-12.818
A1 - C4	157.561	5.742	164.749	464.261	10.404	474.800