

Floor towards attic (uninhabitable) - ddmxxi01a-03

floor towards attic (uninhabitable), solid wood construction, not suspended, dry, wooden surface

Performance rating

Fire protection performance REI 30

maximum span = 5 m; maximum load $E_{d,fi} = 0,6 \text{ kN/m}^2$
 Classified by HFA

Germany

REI30

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

Corresponding proof: manufacturer-specific

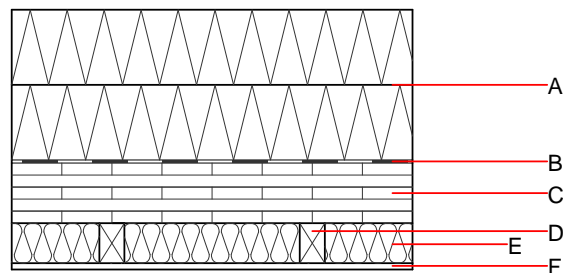
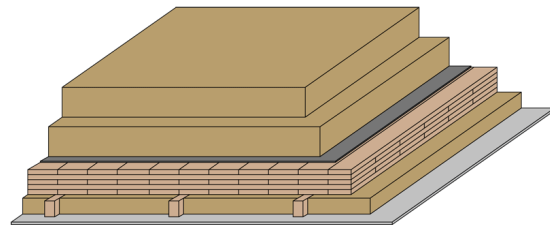
Thermal performance U Diffusion 0.10 $\text{W}/(\text{m}^2\text{K})$ suitable

Calculated by TUM

Acoustic performance $R_w (C; C_{tr})$ 44(-2;-7) dB
 $L_{n,w} (C_i)$

Assessed by Müller-BBM

Mass per unit area m 124.60 kg/m^2



Note: A: pressure-resistant

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 EN
			λ	μ min - max	ρ	c	
A	300.0	wood-fibre insulation board [0,045; R=160]	0.045	5 - 7	160	2.100	E
B		foil (air tight)					
C	125.0	cross laminated timber $\geq 125\text{mm}$; 5-ply at least, surface layer at least 27,5	0.130	50	500	1.600	D
D	80.0	spruce wood battens (50/80; e=400)	0.120	50	450	1.600	D
E	80.0	Wood fibre insulation [039; 45]	0.039	1 - 2	45	2.100	E
F	16.0	3-ply solid wood panel	0.110	50	400	2.500	D

Sustainability rating (per m^2)

Database ecoinvent

OI_{kon} 74.0

Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials kg 149.620
Biogenic carbon in $\text{kg CO}_2\text{-e}$. kg CO_2 214.770
Energy use of Primary Energy MJ 1777.990
Share of renewable PE % 41.15

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		0.357	0.157	6,64E-6	0.080	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	222.954	1991.933	2214.887	1276.129	126.862	1402.991

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		0.205	0.043	3,95E-6	0.044	
C1 - C4		0.002	0.000	1,91E-7	0.000	
A1 - C4		0.207	0.043	4,14E-6	0.044	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	728.631	2225.722	2950.572	1004.017	84.378	1087.727
C1 - C4	3.040	-2225.779	-2222.738	42.299	-67.228	-24.929
A1 - C4	731.671	-0.058	727.833	1046.316	17.150	1062.798