

## Floor towards attic (uninhabitable) - ddrxxa01a-06

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

### Performance rating

**Fire protection performance** REI 30

maximum span = 5 m; maximum load  $E_{d,fi}$  = 3,5 kN/m<sup>2</sup>  
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/(m<sup>2</sup>K)  
Diffusion suitable

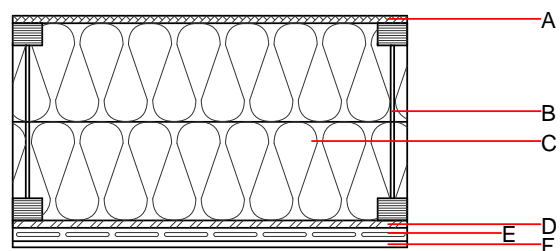
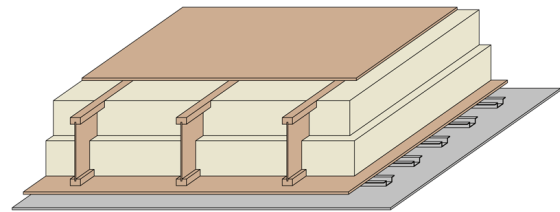
Calculated by TUM

**Acoustic performance**  $R_w$  (C;C<sub>tr</sub>) 43(-3;-11) dB  
 $L_{n,w}$  (C<sub>i</sub>) 75(0)

Assessed by Müller-BBM

**Mass per unit area** m 50.70 kg/m<sup>2</sup>

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 EN
			$\lambda$	$\mu$ min – max	$\rho$	c	
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	Wood fibre insulation [039; 45]	0.039	1 - 2	45	2.100	E
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 m<sup>2</sup>)

#### Database ecoinvent

OI3<sub>Kon</sub> 22.6

Calculated by HFA

#### Database GaBi (ÖKOBAUDAT)

Built-in renewable materials	kg	45.230
Biogenic carbon in kg CO <sub>2</sub> -e.	kg CO <sub>2</sub>	65.310
Energy use of Primary Energy	MJ	1060.580
Share of renewable PE	%	34.71

Calculated by TUM

## Details of sustainability rating

### Database ecoinvent

Lifecycle (Phases)	GWP [kg CO <sub>2</sub> -e.]	AP [kg SO <sub>2</sub> -e.]	EP [kg PO <sub>4</sub> -e.]	ODP [kg R11-e.]	POCP [kg Ethen-e.]	
A1 - A3		0.108	0.048	1,80E-6	0.019	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	95.805	639.497	735.301	389.119	45.500	434.619

### Database GaBi (ÖKOBAUDAT)

Lifecycle (Phases)	GWP [kg CO <sub>2</sub> -e.]	AP [kg SO <sub>2</sub> -e.]	EP [kg PO <sub>4</sub> -e.]	ODP [kg R11-e.]	POCP [kg Ethen-e.]	
A1 - A3		0.124	0.026	1,55E-6	0.034	
C1 - C4		0.002	0.000	7,55E-8	0.000	
A1 - C4		0.127	0.026	1,63E-6	0.034	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	365.941	1067.588	1434.975	664.969	57.339	722.444
C1 - C4	1.834	-1063.243	-1061.410	22.225	-56.397	-34.172
A1 - C4	368.154	4.604	374.204	692.423	0.994	693.553