

## Intermediate floor - gdrnxa10b-04

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

### Performance rating

**Fire protection performance** REI 60

maximum span = 5 m; maximum load  $E_{d,fi}$  = 3,66 kN/m<sup>2</sup> (without floor construction, with ceiling beam 80/200)  
Classified by HFA

#### Germany

F60

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

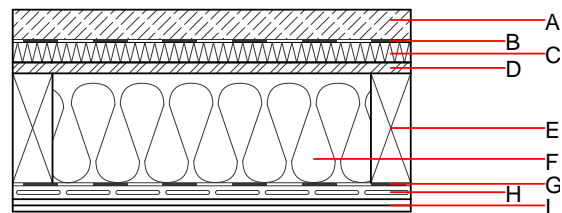
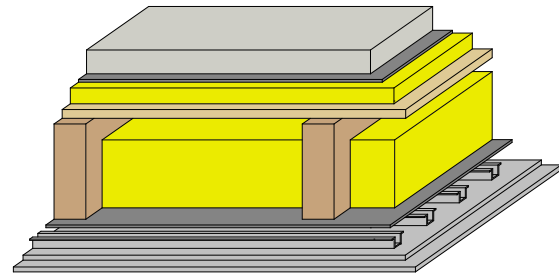
Corresponding proof: DIN 4102-4:2016-05, Tabelle 10.12, Zeile 4

**Thermal performance** U  
Diffusion

**Acoustic performance**  $R_w$  ( $C$ ;  $C_{tr}$ ) 73(-1;-6) dB  
 $L_{n,w}$  ( $C_i$ ) 54(2)

Assessed by Müller-BBM

**Mass per unit area** m 182.90 kg/m<sup>2</sup>



### 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	60.0	anhydrite screed or cement screed	0.700	10	2200	1.300	A1
B	0.2	plastic separation layer	0.200	100000	1400	1.400	E
C	40.0	impact sound absorbing subflooring MW [ $s' = 16 \text{ MN/m}^2$ ]	0.035	1		1.030	A1
D	22.0	OSB	0.130	200	600	1.700	D
E	240.0	construction timber (80/...; e=625)	0.120	50	450	1.600	D
F	200.0	mineral wool [040; 11; <1000°C]	0.040	1	11	1.030	A1
G	0.2	trickling protection					E
H	27.0	resilient channel	0.156				
I	25.0	gypsum plaster board type DF (2x...mm)	0.250	10	800	1.050	A2

### Sustainability rating (per m<sup>2</sup>)

#### Database ecoinvent

IO<sub>3</sub><sub>Kon</sub> 46.3

Calculated by HFA

#### Database GaBi (ÖKOBAUDAT)

**Built-in renewable materials** kg 24.490  
**Biogenic carbon in kg CO<sub>2</sub>-e.** kg CO<sub>2</sub> 36.880  
**Energy use of Primary Energy** MJ 733.480  
**Share of renewable PE** % 18.76

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		0.187	0.081	2,82E-6	0.047	
Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	115.382	466.453	581.835	613.916	23.545	637.460

### 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		0.176	0.025	9,09E-7	0.026	
C1 - C4		0.012	0.005	7,29E-8	0.002	
A1 - C4		0.194	0.032	9,98E-7	0.027	
Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	135.981	435.483	572.381	572.108	35.407	607.626
C1 - C4	0.884	-423.099	-420.849	12.004	-9.389	21.335
A1 - C4	137.632	12.902	153.398	595.845	26.122	650.565