

### Intermediate floor - gdrxa03b-05

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

#### Performance rating

**Fire protection performance** REI 60

maximum span = 5 m; maximum load  $E_{d,fi} = 3,66 \text{ kN/m}^2$   
 Classified by HFA

#### Germany

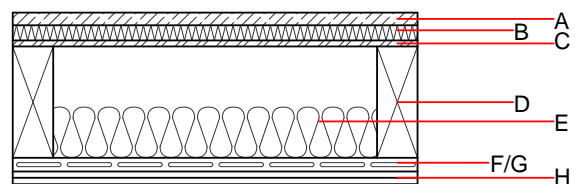
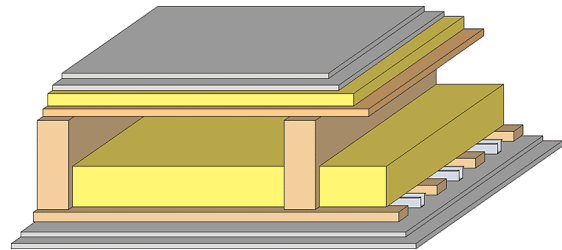
Load  $E_{d,fi}$  according to the German certification document

**Thermal performance** U Diffusion 0.26  $\text{W}/(\text{m}^2\text{K})$   
 suitable

**Acoustic performance**  $R_w$  (C;C<sub>tr</sub>) 64(-3;10) dB  
 $L_{n,w}$  (C<sub>i</sub>) 52(2)

**Mass per unit area** m 79.00  $\text{kg}/\text{m}^2$

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 EN
			$\lambda$	$\mu$ min - max	$\rho$	c	
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 $\text{m}^2$ )

##### Database ecoinvent

$OI3_{kon}$  30.5

Calculated by HFA

##### Database GaBi (ÖKOBAUDAT)

Built-in renewable materials	kg	33.260
Biogenic carbon in $\text{kg CO}_2\text{-e}$ .	kg $\text{CO}_2$	48.320
Energy use of Primary Energy	MJ	647.200
Share of renewable PE	%	22.42

## 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		0.135	0.050	2,30E-6	0.038	

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

### 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		0.104	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 (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [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