

### Intermediate floor - gdmnxn02-03

intermediate floor, solid wood construction, without lining, wet, with filling, wooden surface

#### Performance rating

**Fire protection performance** REI 60  
 maximum span = 5 m; maximum load  $E_{d,fi} = 5 \text{ kN/m}^2$  (without floor construction)  
 Classified by HFA

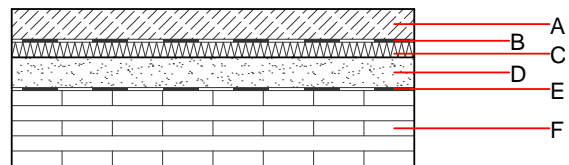
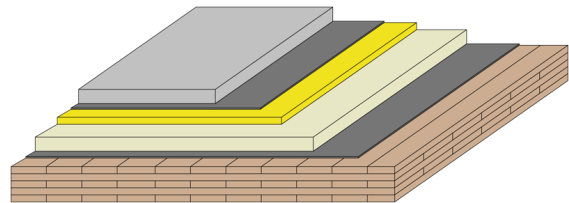
**Thermal performance** U 0.43  $\text{W}/(\text{m}^2\text{K})$   
**Diffusion** suitable

Calculated by HFA

**Acoustic performance**  $R_w (C;C_{tr})$  62 dB  
 $L_{n,w} (C_i)$  52

Assessed by TU-GRAZ

**Mass per unit area** m 295.80  $\text{kg}/\text{m}^2$



#### 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	cement screed	1.330	50 - 100	2000	1.080	A1
B		plastic separation layer	0.200	100000	1400	1.400	E
C	30.0	impact sound absorbing subflooring MW-T [ $s' = 10 \text{ MN}/\text{m}^3$ ]	0.033	1	70	1.030	A1
D	60.0	non-bonded chippings	0.700	1	1700	1.000	A1
E		trickling protection					E
F	140.0	cross laminated timber, minimum 5-ply, $d \geq 140,0$ ; first layer minimum 30mm	0.130	50	500	1.600	D

#### Sustainability rating (per $\text{m}^2$ )

##### Database ecoinvent

$OI3_{kon}$  48.1

calculated with gypsum plaster fire protection board (GKF/DF); this data includes 3-, 5-, and 7-ply cross laminated timber elements;  
 Calculated by HFA

**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		0.225	0.102	3,73E-6	0.061	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	55.768	957.600	1013.368	755.258	31.697	786.956