

Intermediate floor - gdmnxn02-02

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

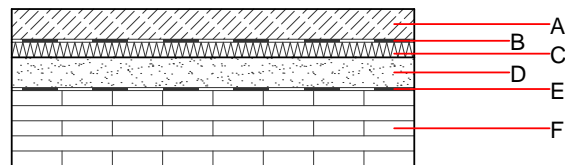
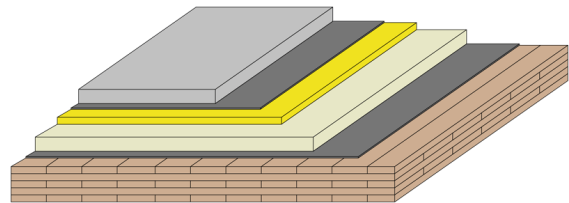
Thermal performance U 0.43 $\text{W}/(\text{m}^2\text{K})$
Diffusion suitable

Calculated by HFA

Acoustic performance $R_w (C;C_{tr})$ 55 dB
 $L_{n,w} (C_i)$ 60

Assessed by TU-GRAZ

Mass per unit area m 301.80 kg/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
			λ	μ min - max	ρ	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	bonded chippings	0.700	1	1800	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 m^2)

Database ecoinvent

$OI3_{kon}$ 48.9

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 ₂ -e.]	AP [kg SO ₂ -e.]	EP [kg PO ₄ -e.]	ODP [kg R11-e.]	POCP [kg Ethen-e.]	
A1 - A3		0.227	0.104	3,75E-6	0.061	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	56.097	957.600	1013.697	764.832	31.697	796.529