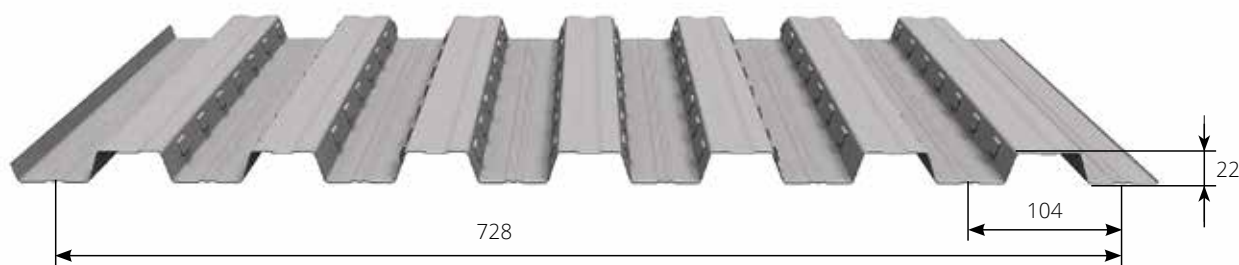


PCB 20



THICKNESS mm	0.5	0.7
WEIGHT (daN/m ²)	5.3	7.4

RECOMMENDED APPLICATION

- > Metal frameworks: warehouse, storage, offices, etc.
- > Houses: new build, renovation, etc.

PRODUCTION PROGRAMME

Galva S320 GD + Z275	SHEET thickness 0.50 and 0.70 mm
Polyester 25μ	



Contact us
for coloured flooring.

STANDARDS

Galvanised steel NF EN 10346/NF P 34-310
Pre-painted steel NF EN 10169/NF P 34-301

REGULATIONS

TECHNICAL APPLICATION DOCUMENT
DTA 3/15-805

QUALITY

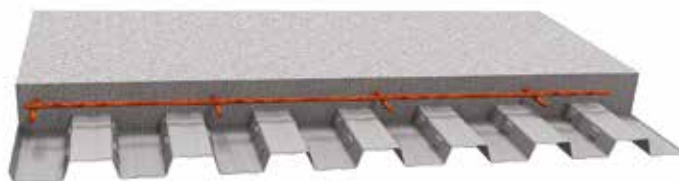
QB MARKING
CE MARKING

SHEET THICKNESS		SECTION	WEIGHT	EFFECTIVE INERTIA MOMENT	MOMENT OF RESISTANCE	RESISTANT SHEAR STRESS
Galvanised	Bare	Ap	g0	I _{eff}	M _{trd}	V _{rd}
mm	mm	cm ²	daN/m ²	cm ⁴	daN.m	daN/m
0.5	0.46	6.32	5.3	4.78	128	1013
0.7	0.66	9.07	7.4	7.15	197	1980

CONCRETE CONSUMPTION

Slab thickness	Nominal volume in litres	Weight of concrete alone
cm	litres/m ²	daN/m ²
7	60	150
8	70	175
9	80	200
10	90	225
11	100	250
12	110	275
13	120	300
14	130	325

Assumed bulk density of concrete: 2500 daN/m³
Due to the deflection and weight of the profile, the weight of the concrete must be added to obtain the total weight of the floor



■ View of concrete composite floor and its welded wire mesh

CONCRETE/STEEL SHEET COMPOSITE

The combination of steel sheeting and concrete is assessed using the following m and k factors:

Nominal sheet thickness: 0.5 mm		
	SLIP ULTIMATE LIMIT STATE	SLIP SERVICEABILITY LIMIT STATE
	N/mm ²	N/mm ²
m	16.04	16.21
k	0.3	0.432

Nominal sheet thickness: 0.7 mm		
	SLIP ULTIMATE LIMIT STATE	SLIP SERVICEABILITY LIMIT STATE
	N/mm ²	N/mm ²
m	86	-25.15
k	0.185	0.55

FIRE CHARACTERISTICS

Fire rating criteria are fire stability, thermal insulation and protection against flames. The period specified in minutes is the standardised time of fire exposure during which these criteria must be verified.

> Protection against flames

This function is ensured without additional protection by the PCB profile

> Thermal insulation

To meet this criterion, a minimum concrete thickness must be respected.

Fire rating (min)	30	60	90	120
Min. slab thickness (cm)	7	9	11	13

> Fire stability

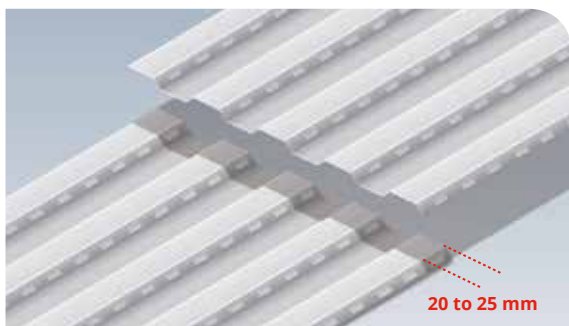
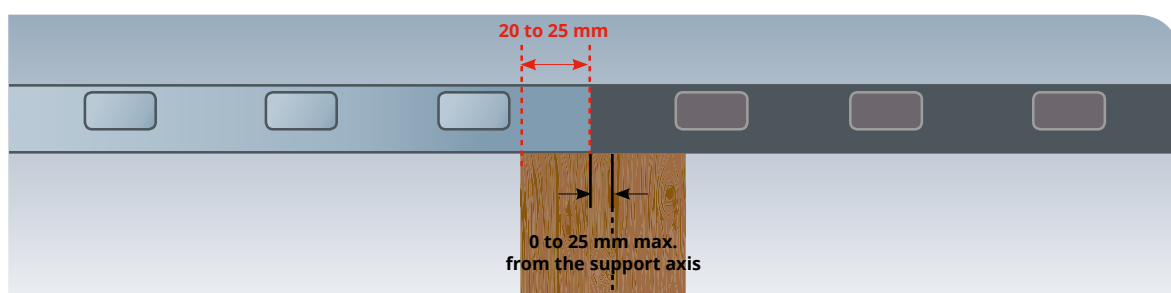
PCB 20 sheet metal has a fire resistance of 30 minutes without additional reinforcement.

For periods between 60 and 120 minutes, reinforcement steel bars need to be placed in the ribs of the concrete slab to ensure mechanical strength.



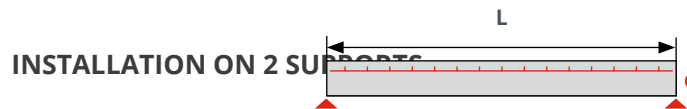
SIDE LAP OF SHEETS

The end lap principle of the PCB 20 is unique!
Thanks to the 25 mm embossing on the edge, the leakage of cement slurry is minimised and your site remains clean.



Example of bosses

Maximum use load (in daN/m²)



SHEET THICKNESS: 0.5 MM

0 PROPS 1 PROPS

Slab thickness s (cm)								
Span L (cm)	7	8	9	10	11	12	13	14
60	3988	4654	5321	5988	6655	7322	7989	8655
70	3320	3875	4431	4986	5541	6096	6652	7207
80	2841	3316	3791	4266	4741	5216	5692	6167
90	2481	2896	3311	3726	4141	4555	4970	5385
100	2201	2569	2937	3305	3673	4041	4409	4777
110	1977	2308	2638	2969	3300	3630	3961	4098
120	1794	2094	2394	2694	2843	3128	3413	3698

SHEET THICKNESS: 0.7 MM

0 PROPS 1 PROPS

Slab thickness s (cm)								
Span L (cm)	7	8	9	10	11	12	13	14
60	4873	5695	6517	7339	8161	8982	9804	9924
70	4157	4858	5559	6260	6961	7662	8363	9065
80	3619	4230	4840	5451	6061	6672	7283	7893
90	3200	3741	4281	4821	5361	5901	6441	6982
100	2865	3349	3833	4317	4800	5284	5768	6252
110	2591	3028	3466	3903	4341	4779	5216	5654
120	2362	2761	3159	3558	3957	4356	4755	5154
130	2167	2533	2899	3266	3632	3887	4243	4599
140	1958	2288	2617	2807	3122	3437	3751	4066
150	1758	1942	2223	2504	2784	3065	3345	3626
160	1493	1745	1997	2249	2501	2753	3006	3258
170	1349	1577	1805	2033	2261	2489	2717	2945
180	1226	1433	1640	1848	2055	2262	2470	2677
190	1118	1308	1497	1686	1876	2065	2254	2444
200	1024	1198	1371	1545	1718	1892	2065	2239

The dead weight of the slab is not included in the table values.

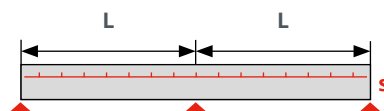
For a given span L and slab thickness d, the tables above give the maximum load in daN/m² uniformly distributed that the floor can receive (in addition to the dead weight of the slab) as well as the number of props to use at casting

Calculation hypotheses:

- ✓ Equal spans
- ✓ Distributed load
- ✓ Grade C25/30 concrete with density of 2500 kg/m³
- ✓ 30-minute fire rating
- ✓ Slenderness ratio $L/d \leq 33$
- ✓ Width of support: 160mm
- ✓ Reinforcing steel: elasticity limit 500MPa
- ✓ Deflection during casting $L/180$
- ✓ Slab deflection: not considered
- ✓ Moment redistribution on supports=15%

Maximum use load (in daN/m²)

INSTALLATION ON 3
PROPS



SHEET THICKNESS: 0.5 MM

0 PROPS

Slab thickness s (cm)								
Span L (cm)	7	8	9	10	11	12	13	14
60	4033	4708	5383	6059	6734	7409	8084	8760
70	3437	4012	4588	5163	5739	6314	6890	7466
80	2989	3490	3991	4492	4992	5493	5994	6495
90	2641	3084	3526	3969	4411	4854	5297	5739
100	2363	2759	3155	3551	3946	4342	4738	5134
110	2134	2492	2850	3208	3566	3923	4281	4639
120	1944	2270	2596	2922	3248	3574	3900	4226

SHEET THICKNESS: 0.7 MM

0 PROPS 1 PROP

Slab thickness s (cm)								
Span L (cm)	7	8	9	10	11	12	13	14
60	4003	4678	5354	6029	6704	7380	8055	8730
70	3411	3986	4562	5138	5713	6289	6864	7440
80	2967	3467	3968	4469	4970	5471	5971	6472
90	2621	3064	3506	3949	4391	4834	5277	5719
100	2344	2740	3136	3533	3929	4325	4721	5117
110	2118	2476	2834	3192	3550	3907	4265	4623
120	1929	2255	2581	2907	3233	3560	3886	4212
130	1769	2068	2367	2666	2965	3265	3564	3863
140	1631	1907	2183	2459	2735	3011	3287	3563
150	1512	1768	2024	2280	2535	2791	3047	3303
160	1407	1645	1883	2122	2360	2598	2836	3075
170	1314	1536	1759	1982	2204	2427	2650	2872
180	1231	1439	1648	1857	2065	2274	2482	2691
190	1156	1352	1548	1744	1940	2136	2332	2528
200	1088	1272	1457	1642	1826	2011	2195	2380

The dead weight of the slab is not included in the table values.

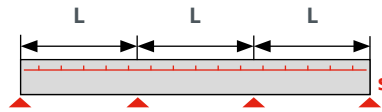
For a given span L and slab thickness d, the tables above give the maximum load in daN/m² uniformly distributed that the floor can receive (in addition to the dead weight of the slab) as well as the number of props to use at casting

Calculation hypotheses:

- ✓ Equal spans
- ✓ Distributed load
- ✓ Grade C25/30 concrete with density of 2500 kg/m³
- ✓ 30-minute fire rating
- ✓ Slenderness ratio $L/d \leq 36$
- ✓ Width of support: 160mm
- ✓ Reinforcing steel: elasticity limit 500MPa
- ✓ Deflection during casting $L/180$
- ✓ Slab deflection: not considered
- ✓ Moment redistribution on supports=15%

Maximum use load (in daN/m²)

INSTALLATION ON 4
SUPPORTS



SHEET THICKNESS: 0.5 MM

0 PROPS

Slab thickness s (cm)								
Span L (cm)	7	8	9	10	11	12	13	14
60	4071	4753	5434	6116	6798	7479	8161	8843
70	3470	4051	4632	5213	5794	6375	6956	7538
80	3019	3524	4030	4536	5041	5547	6053	6558
90	2668	3115	3562	4009	4456	4903	5350	5796
100	2387	2787	3187	3587	3987	4387	4786	5186
110	2156	2518	2879	3241	3602	3964	4221	4573
120	1964	2294	2623	2861	3179	3498	3817	4136

SHEET THICKNESS: 0.7 MM

0 PROPS 1 PROP

Slab thickness s (cm)								
Span L (cm)	7	8	9	10	11	12	13	14
60	4041	4723	5404	6086	6768	7449	8131	8813
70	3444	4025	4606	5187	5768	6350	6931	7512
80	2996	3502	4007	4513	5019	5525	6030	6536
90	2647	3094	3542	3989	4436	4883	5330	5777
100	2368	2769	3169	3569	3969	4369	4769	5169
110	2140	2502	2863	3225	3586	3948	4310	4671
120	1949	2279	2608	2938	3267	3597	3926	4256
130	1788	2090	2392	2695	2997	3299	3602	3904
140	1649	1928	2207	2486	2765	3044	3323	3602
150	1528	1787	2045	2304	2563	2821	3080	3339
160	1422	1663	1904	2144	2385	2626	2867	3108
170	1328	1553	1778	2003	2228	2453	2678	2903
180	1244	1454	1665	1876	2087	2298	2508	2719
190	1168	1366	1564	1762	1960	2158	2355	2553
200	1098	1285	1471	1657	1844	2030	2217	2403

The dead weight of the slab is not included in the table values.

For a given span L and slab thickness d, the tables above give the maximum load in daN/m² uniformly distributed that the floor can receive (in addition to the dead weight of the slab) as well as the number of props to use at casting

Calculation hypotheses:

- ✓ Equal spans
- ✓ Distributed load
- ✓ Grade C25/30 concrete with density of 2500 kg/m³
- ✓ 30-minute fire rating
- ✓ Slenderness ratio $L/d \leq 36$
- ✓ Width of support: 160mm
- ✓ Steel rebar: yield strength 500MPa
- ✓ Deflection during casting $L/180$
- ✓ Slab deflection: not considered
- ✓ Moment redistribution on supports=15%