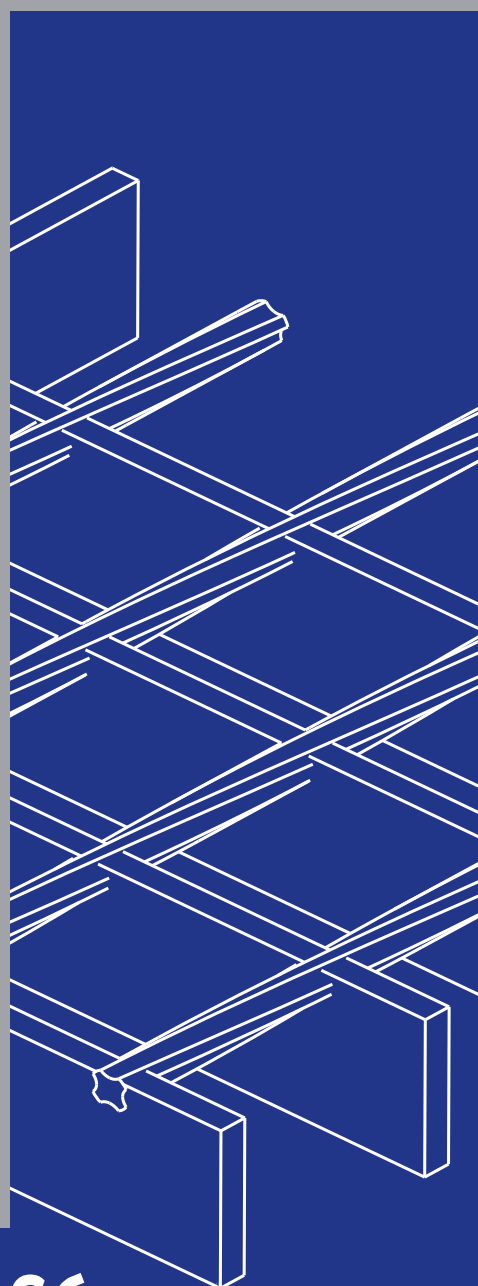
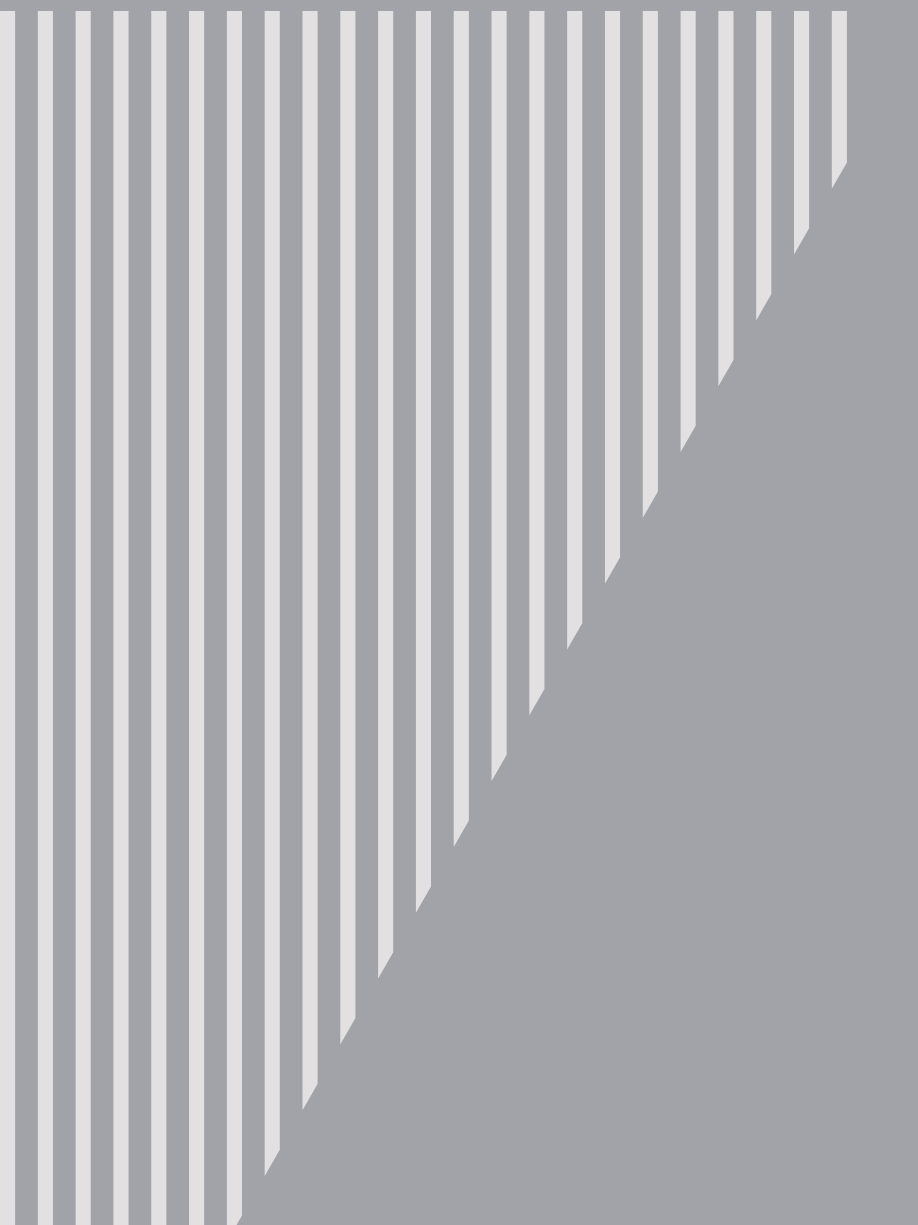




PLATFORM GRATINGS



**CHECK OUR CAPABILITIES
USE OUR EXPERIENCE !**

**MEN ACT
MEN WORK
MEN WALK
AND PURSUE THEIR GOALS**

**QUO VADIS? ...
OR RATHER 'QUA VADIS?'
WHAT ARE YOU WALKING ON?**

WHAT ARE MEN WALKING ON?

The important things are:
solid and steady support for your feet,
full confidence of safety,
durability and reliability.
It is sufficient to think of another goal

The answer: PLATFORM GRATINGS

it meets
THE TOP QUALITY STANDARDS
thanks to
THE STATE-OF-THE-ART TECHNOLOGY
OF MANUFACTURE
AND THE ANTICORROSIVE PROTECTION

**THE ANSWER: PLATFORM GRATINGS
DONE BY ONE OF LEADING MANUFACTURES
- POLIMEX-MOSTOSTAL S.A.**



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INTRODUCTION

We commenced the **PRODUCTION OF PLATFORM GRATINGS** as early as in 1978 using the technology applied by the largest grating manufacturers in Europe.

We manufacture PLATFORM GRATINGS according to the requirements of the following standards: **DIN 24537, BS, ASTM**. The **ANTICORROSIVE PROTECTION** of our gratings is provided by the hot-dip zinc coating process according to **EN ISO 1461, DIN 50976, BS729, ASTM A123**; at the Customer's request, we coat our gratings with paint or use the **DUPLEX** method (hot-dip zinc coating + painting).

Our products have abroad application spectrum.

WALKING HORIZONTALLY

We use gratings as landings at industrial plants, warehouses and ship engine rooms, as well as platforms of overhead pedestrian walkways and staircases or pit covers. We walk on them when they create transport routes along pipelines and reservoirs, as well as the surfaces of foot and other bridges and the components of racks.

Platform gratings covering pits and hatchways provide important function of accident protection.

CLIMBING UP AND DOWN

We climb gratings up and down when they serve as steps of various industrial stairways (both straight and spiral, high and low) inside and outside of buildings, access paths to equipment in industrial buildings, warehouses and shipbuilding industry.

OTHER VERTICAL AND HORIZONTAL APPLICATIONS

Another, a bit more unconventional, application of platform gratings is their usage as decorations or the components of stage design of various indoor and outdoor cultural events, e.g. as stages, landings or runways. They can be also used as: facades, fencing segments, components of municipal architecture, ramps for the disabled people, grates surrounding trees or doormats in public utility facilities.

The wide variety of sizes, shapes and types of platform gratings determines rich market offer of **POLIMEX-MOSTOSTAL S.A.**

Let`s have a look



Due to the technology of production and the workmanship, we present our platform gratings in division into:

PRESS-WELDED GRATINGS PRESSED GRATINGS

Additionally, we present other types of platform gratings, such as **FULL PRESSED GRATINGS, LOUVERED GRATINGS AND SPECIAL MESH GRATINGS**.

In case of each type of gratings, we discuss its **SERRATED** version (with increased anti-slip ratio).

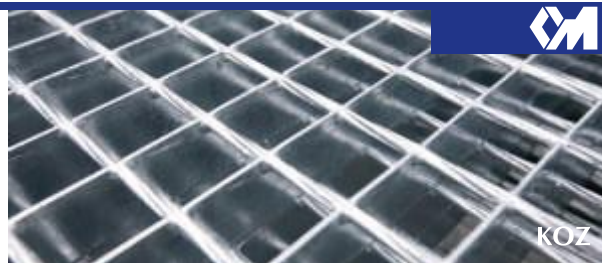
We also present offered types of **FASTENERS FOR CONNECTING AND INSTALLING GRATINGS** and the **METHODS OF GRATINGS INSTALLATION AT THE PLATFORMS**.

We describe the **STAIR TREADS** manufactured based on press-welded and pressed gratings – also in the **SERRATED** anti-slip version.

We present **SPIRAL AND STRAIGHT STAIRCASE**.

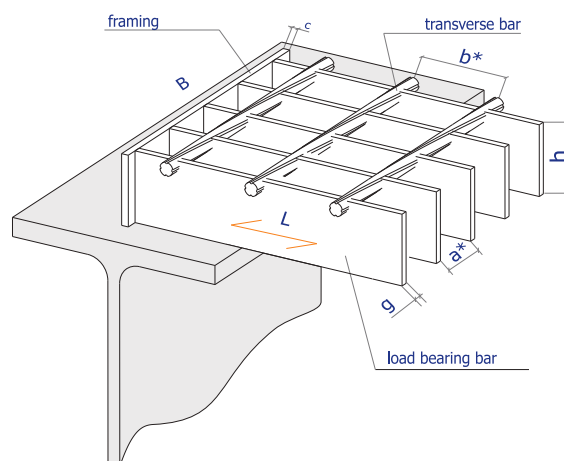
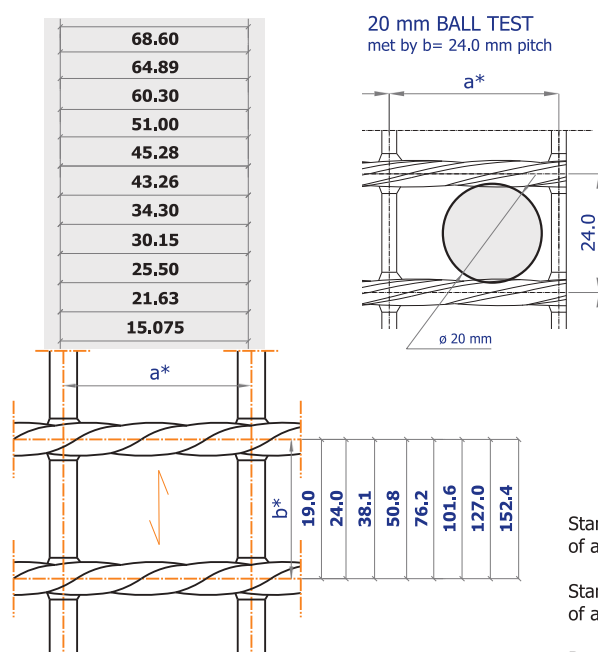
PRESS-WELDED GRATING according to DIN 24537, ITB or IBDiM Technical Approvals.

We make our press-welded gratings of load bearing bar with various dimensions and specially prepared interconnecting rods called transverse bars. Transverse bars are resistance welded to the load bearing bar creating a very stable and repeatable product protecting the grating against damage during its usage. The products of the welding process are standard 6100 mm x 1000 mm panels. During further processing, the panels are cut to specified dimensions (gratings), framed and protected against corrosion.



PXM press-welded gratings have many different applications. The significant durability of PXM gratings proves in places with difficult conditions of use. PXM gratings are used in metallurgy, chemical industry, shipbuilding, power engineering, mining industry, etc. Depending on the loads to be carried by the platform gratings, different sizes of mesh and load bearing bars are used. Press-welded gratings meet the requirements of RAL-GZ 638.

MESH SIZES OF PRESS-WELDED GRATINGS (manufacturing potential)



Key

- a - load bearing bar pitch
- b - transverse bar pitch
- * - centre / centre [mm]
- h - load bearing bar height
- g - load bearing bar thickness
- c - framing thickness
- L - overall grating width
- B - overall grating length
- $\longleftrightarrow$ - bearing bar direction marking

Standard max length
of a grating L=6100 mm

Standard max width
of a grating L=1000 mm

B $\neq$ 1000 mm width gratings are made
to individual orders.

We manufacture press-welded gratings
with minus tolerance of +0/-4 [mm].

Other designs of gratings (mesh size, bars, L and B of the grating) are possible after arrangements with the sales department.

TRANSVERSE BAR - ROD PROFILES



round grooved bar
($\phi 5.2 \div \phi 7.6 \text{ mm}$)



square bar
(5 $\div$ 6 mm)



round plain bar
($\phi 4 \div \phi 6 \text{ mm}$)

Framing – as a standard, made of a flat bar of same height as load bearing bar or tailored according to individual needs after agreement with sales department.

MARKING

KOZ – Framed press-welded gratings
KNZ – Non-framed press-welded gratings
type of grating/mesh size/load bearing bar/grating size/quantity
KOZ / 34x38 / 30x2 / L=800xB=1000 / 50 pcs.

Types of load bearing bars

h mm	25	35	50	25	35	50	25	35	50	70	30	40	60	80	30	40	60	80	35	50	70
g	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22



Full mesh widths of press-welded gratings for fixed load bearing bar pitch

„n“ number of pitch	For pitch a=15.075 mm load bearing bar thickness [mm]		
	g=2	g=3	g=4
1	17	18	19
2	32	33	34
3	47	48	49
4	62	63	64
5	77	78	79
6	92	93	94
7	108	109	110
8	123	124	125
9	138	139	140
10	153	154	155
11	168	169	170
12	183	184	185
13	198	199	200
14	213	214	215
15	228	229	230
16	243	244	245
17	258	259	260
18	273	274	275
19	288	289	290
20	304	305	306
21	319	320	321
22	334	335	336
23	349	350	351
24	364	365	366
25	379	380	381
26	394	395	396
27	409	410	411
28	424	425	426
29	439	440	441
30	454	455	456
31	469	470	471
32	484	485	486
33	499	500	501
34	515	516	517
35	530	531	532
36	545	546	547
37	560	561	562
38	575	576	577
39	590	591	592
40	605	606	607
41	620	621	622
42	635	636	637
43	650	651	652
44	665	666	667
45	680	681	682
46	695	696	697
47	711	712	713
48	726	727	728
49	741	742	743
50	756	757	758
51	771	772	773
52	786	787	788
53	801	802	803
54	816	817	818
55	831	832	833
56	846	847	848
57	861	862	863
58	876	877	878
59	891	892	893
60	907	908	909
61	922	923	924
62	937	938	939
63	952	953	954
64	967	968	969
65	982	983	984
66	997	998	999

Table 1

„n“ number of pitch	For pitch a=21.63 mm load bearing bar thickness [mm]			
	g=2	g=3	g=4	g=5
1	24	25	26	27
2	45	46	47	48
3	67	68	69	70
4	89	90	91	92
5	110	111	112	113
6	132	133	134	135
7	153	154	155	156
8	175	176	177	178
9	197	198	199	200
10	218	219	220	221
11	240	241	242	243
12	262	263	264	265
13	283	284	285	286
14	305	306	307	308
15	326	327	328	329
16	348	349	350	351
17	370	371	372	373
18	391	392	393	394
19	413	414	415	416
20	435	436	437	438
21	456	457	458	459
22	478	479	480	481
23	499	500	501	502
24	521	522	523	524
25	543	544	545	546
26	564	565	566	567
27	586	587	588	589
28	608	609	610	611
29	629	630	631	632
30	651	652	653	654
31	673	674	675	676
32	694	695	696	697
33	716	717	718	719
34	737	738	739	740
35	759	760	761	762
36	781	782	783	784
37	802	803	804	805
38	824	825	826	827
39	846	847	848	849
40	867	868	869	870
41	889	890	891	892
42	910	911	912	913
43	932	933	934	935
44	954	955	956	957
45	975	976	977	978
46	997	998	999	1000

Table 2

B (grating width) = $n \times \text{pitch} + g$ (load bearing bar thickness)

SELECTION OF WIDTH (PRESS-WELDED GRATINGS)

In order to ensure low cost of manufacture of press-welded gratings, the repeatability of the grating module of width $B=1000$ mm should be used for covering the largest possible surface of a pit or a landing. The lengths of the gratings should be repeatable as well if possible. The terminal grating is made of width B corresponding to the actual dimensions of the landing or the pit to be covered.

Due to aesthetic, and especially installation related issues, it is advisable to use full mesh width gratings.

Full mesh widths of press-welded grating for fixed load bearing bar pitch

Table 3

„n” number of pitch	For pitch a=25.5 mm Load bearing bar thickness [mm]			
	g=2	g=3	g=4	g=5
1	28	29	30	31
2	53	54	55	56
3	79	80	81	82
4	104	105	106	107
5	130	131	132	133
6	155	156	157	158
7	181	182	183	184
8	206	207	208	209
9	232	233	234	235
10	257	258	259	260
11	283	284	285	286
12	308	309	310	311
13	334	335	336	337
14	359	360	361	362
15	385	386	387	388
16	410	411	412	413
17	436	437	438	439
18	461	462	463	464
19	487	488	489	490
20	512	513	514	515
21	538	539	540	541
22	563	564	565	566
23	589	590	591	592
24	614	615	616	617
25	640	641	642	643
26	665	666	667	668
27	691	692	693	694
28	716	717	718	719
29	742	743	744	745
30	767	768	769	770
31	793	794	795	796
32	818	819	820	821
33	844	845	846	847
34	869	870	871	872
35	895	896	897	898
36	920	921	922	923
37	946	947	948	949
38	971	972	973	974
39	997	998	999	1000

Table 4

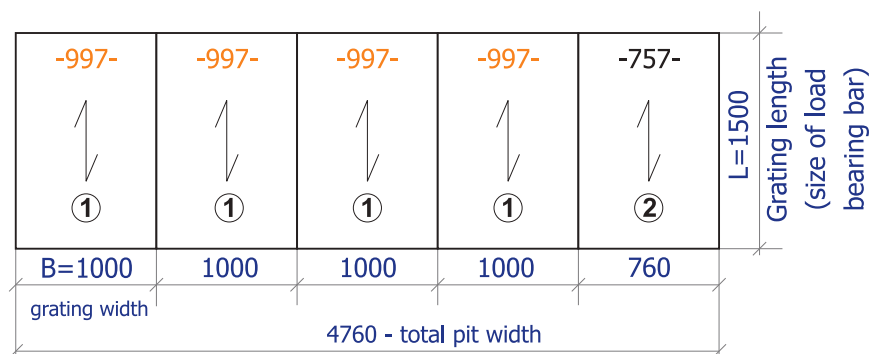
„n” number of pitch	For pitch a=34.3 mm Load bearing bar thickness [mm]					
	g=2	g=3	g=4	g=5	g=6	g=8
1	36	37	38	39	40	42
2	71	72	73	74	75	77
3	105	106	107	108	109	111
4	139	140	141	142	143	145
5	174	175	176	177	178	180
6	208	209	210	211	212	214
7	242	243	244	245	246	248
8	276	277	278	279	280	282
9	311	312	313	314	315	317
10	345	346	347	348	349	351
11	379	380	381	382	383	385
12	414	415	416	417	418	420
13	448	449	450	451	452	454
14	482	483	484	485	486	488
15	517	518	519	520	521	523
16	551	552	553	554	555	557
17	585	586	587	588	589	591
18	619	620	621	622	623	625
19	654	655	656	657	658	660
20	688	689	690	691	692	694
21	722	723	724	725	726	728
22	757	758	759	760	761	763
23	791	792	793	794	795	797
24	825	826	827	828	829	831
25	860	861	862	863	864	866
26	894	895	896	897	898	900
27	928	929	930	931	932	934
28	962	963	964	965	966	968
29	997	998	999	1000	1001	1003

IMPORTANT

The above tables specify the full mesh widths for load bearing bar pitch. Ordering PXM platform gratings with full mesh widths ensures **the lowest cost of purchase and the shortest time of manufacture.**

B (grating width) = $n \times \text{pitch} + g$ (load bearing bar thickness)

EXAMPLE OF INSTALLATION OF FULL MESH WIDTH GRATINGS



Key

L - Grating length
B - Grating width

① - Filling of a pit with full mesh width B=1000 mm
② - Filling with a grating tailored to the remaining width of the pit

↔ - bearing bar direction marking



Table of loads of press-welded gratings for pitch a = 15.075 mm

Material: Steel. Analytical value of safety factor $\gamma=1.5$.

$a \times b$
15.075 x 24.0
15.075 x 38.1

Loads according to the below table

$a \times b$
15.075 x 50.8
15.075 x 76.2
15.075 x 101.6

Loads according to the below table minus 5%

a - load bearing bar pitch

b - transverse bar pitch

Table 5

load bearing bar	Supports spacing c/c [mm]																								
		500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500			
20 x 2	Fv	4434	3079	2262	1732	1369	1109	916	770	656	566	493	433	384	342	307	277	251	229	210	192	177			
	f _v	1.94	2.8	3.81	4.97	6.29	7.77	9.4	11.19	13.13	15.23	17.49	19.89	22.46	25.18	28.05	31.08	34.27	37.61	41.11	44.76	48.57			
	Fp	324	259	216	185	162	144	130	118	108	100	93	86	81	76	72	68	65	62	59	56	54			
	f _p	1.8	2.55	3.42	4.41	5.53	6.78	8.14	9.64	11.25	12.99	14.86	16.85	18.96	21.2	23.56	26.05	28.66	31.4	34.26	37.24	40.35			
20 x 3	Fv	6651	4619	3393	2598	2053	1663	1374	1155	984	848	739	650	575	513	461	416	377	344	314	289	266			
	f _v	1.94	2.8	3.81	4.97	6.29	7.77	9.4	11.19	13.13	15.23	17.49	19.89	22.46	25.18	28.05	31.08	34.27	37.61	41.11	44.76	48.57			
	Fp	486	389	324	278	243	216	194	177	162	150	139	130	122	114	108	102	97	93	88	85	81			
	f _p	1.8	2.55	3.42	4.41	5.53	6.78	8.14	9.64	11.25	12.99	14.86	16.85	18.96	21.2	23.56	26.05	28.66	31.4	34.26	37.24	40.35			
25 x 2	Fv	6928	4811	3535	2706	2138	1732	1431	1203	1025	884	770	677	599	535	480	433	393	358	327	301	277			
	f _v	1.55	2.24	3.05	3.98	5.04	6.22	7.52	8.95	10.51	12.19	13.99	15.92	17.97	20.14	22.44	24.87	27.42	30.09	32.89	35.81	38.86			
	Fp	504	404	336	288	252	224	202	183	168	155	144	135	126	119	112	106	101	96	92	88	84			
	f _p	1.44	2.04	2.74	3.53	4.43	5.42	6.52	7.71	9	10.39	11.89	13.48	15.17	16.96	18.85	20.84	22.93	25.12	27.4	29.79	32.28			
25 x 3	Fv	10392	7217	5302	4060	3208	2598	2147	1804	1537	1326	1155	1015	899	802	720	650	589	537	491	451	416			
	f _v	1.55	2.24	3.05	3.98	5.04	6.22	7.52	8.95	10.51	12.19	13.99	15.92	17.97	20.14	22.44	24.87	27.42	30.09	32.89	35.81	38.86			
	Fp	757	605	504	432	378	336	303	275	252	233	216	202	189	178	168	159	151	144	138	132	126			
	f _p	1.44	2.04	2.74	3.53	4.43	5.42	6.52	7.71	9	10.39	11.89	13.48	15.17	16.96	18.85	20.84	22.93	25.12	27.4	29.79	32.28			
25 x 4	Fv	13857	9623	7070	5413	4277	3464	2863	2406	2050	1767	1540	1353	1199	1069	960	866	786	716	655	601	554			
	f _v	1.55	2.24	3.05	3.98	5.04	6.22	7.52	8.95	10.51	12.19	13.99	15.92	17.97	20.14	22.44	24.87	27.42	30.09	32.89	35.81	38.86			
	Fp	1009	807	673	577	504	448	404	367	336	310	288	269	252	237	224	212	202	192	183	175	168			
	f _p	1.44	2.04	2.74	3.53	4.43	5.42	6.52	7.71	9	10.39	11.89	13.48	15.17	16.96	18.85	20.84	22.93	25.12	27.4	29.79	32.28			
30 x 2	Fv	9977	6928	5090	3897	3079	2494	2061	1732	1476	1273	1109	974	863	770	691	624	566	515	471	433	399			
	f _v	1.3	1.87	2.54	3.32	4.2	5.18	6.27	7.46	8.76	10.15	11.66	13.26	14.97	16.79	18.7	20.72	22.85	25.07	27.41	29.84	32.38			
	Fp	724	579	482	414	362	322	289	263	241	223	207	193	181	170	161	152	145	138	132	126	121			
	f _p	1.2	1.7	2.28	2.94	3.69	4.52	5.43	6.42	7.5	8.66	9.91	11.23	12.64	14.13	15.71	17.37	19.11	20.93	22.84	24.83	26.9			
30 x 3	Fv	14965	10392	7635	5846	4619	3741	3092	2598	2214	1909	1663	1461	1295	1155	1036	935	848	773	707	650	599			
	f _v	1.3	1.87	2.54	3.32	4.2	5.18	6.27	7.46	8.76	10.15	11.66	13.26	14.97	16.79	18.7	20.72	22.85	25.07	27.41	29.84	32.38			
	Fp	1085	868	724	620	543	482	434	395	362	334	310	289	271	255	241	229	217	207	197	189	181			
	f _p	1.2	1.7	2.28	2.94	3.69	4.52	5.43	6.42	7.5	8.66	9.91	11.23	12.64	14.13	15.71	17.37	19.11	20.93	22.84	24.83	26.9			
30 x 4	Fv	19954	13857	10180	7794	6159	4988	4123	3464	2952	2545	2217	1949	1726	1540	1382	1247	1131	1031	943	866	798			
	f _v	1.3	1.87	2.54	3.32	4.2	5.18	6.27	7.46	8.76	10.15	11.66	13.26	14.97	16.79	18.7	20.72	22.85	25.07	27.41	29.84	32.38			
	Fp	1447	1158	965	827	724	643	579	526	482	445	414	386	362	341	322	305	289	276	263	252	241			
	f _p	1.2	1.7	2.28	2.94	3.69	4.52	5.43	6.42	7.5	8.66	9.91	11.23	12.64	14.13	15.71	17.37	19.11	20.93	22.84	24.83	26.9			
40 x 2	Fv	17737	12317	9049	6928	5474	4434	3665	3079	2624	2262	1971	1732	1534	1369	1228	1109	1005	916	838	770	709			
	f _v	0.97	1.4	1.9	2.49	3.15	3.89	4.7	5.6	6.57	7.62	8.74	9.95	11.23	12.59	14.03	15.54	17.14	18.81	20.55	22.38	24.28			
	Fp	1276	1021	851	729	638	567	511	464	425	393	365	340	319	300	284	269	255	243	232	222	213			
	f _p	0.9	1.27	1.71	2.21	2.77	3.39	4.07	4.82	5.63	6.5	7.43	8.42	9.48	10.6	11.78	13.02	14.33	15.7	17.13	18.62	20.17			
40 x 3	Fv	26605	18476	13574	10392	8211	6651	5497	4619	3936	3393	2956	2598	2301	2053	1842	1663	1508	1374	1257	1155	1064			
	f _v	0.97	1.4	1.9	2.49	3.15	3.89	4.7	5.6	6.57	7.62	8.74	9.95	11.23	12.59	14.03	15.54	17.14	18.81	20.55	22.38	24.28			
	Fp	1915	1532	1276	1094	957	851	766	696	638	589	547	511	479	451	425	403	383	365	348	333	319			
	f _p	0.9	1.27	1.71	2.21	2.77	3.39	4.07	4.82	5.63	6.5	7.43	8.42	9.48	10.6	11.78	13.02	14.33	15.7	17.13	18.62	20.17			
40 x 4	Fv	35473	24634	18098	13857	10948	8868	7329	6159	5247	4525	3941	3464	3069	2737	2457	2217	2011	1832	1676	1540	1419			
	f _v	0.97	1.4	1.9	2.49	3.15	3.89	4.7	5.6	6.57	7.62	8.74	9.95	11.23	12.59	14.03	15.54	17.14	18.81	20.55	22.38	24.28			
	Fp	2553	2042	1702	1459	1276	1135	1021	928	851	786	729	681	638	601	567	537	511	486	464	444	425			
	f _p	0.9	1.27	1.71	2.21	2.77	3.39	4.07	4.82	5.63	6.5	7.43	8.42	9.48	10.6	11.78	13.02	14.33	15.7	17.13	18.62	20.17			
50 x 2	Fv	27713	19245	14139	10826	8553	6928	5726	4811	4100	3535	3079	2706	2397	2138	1919	1732	1571	1431	1310	1203	1109			
	f _v	0.78	1.12	1.52	1.99	2.52	3.11	3.76	4.48	5.25	6.09	6.99	7.96	8.98	10.07	11.22	12.43	13.71	15.04	16.44	17.9	19.43			
	Fp	1979	1583	1319	1131	989	879	792	720	660	609	565	528	495	466	440	417	396	377	360	344	330			
	f _p	0.72	1.02	1.37	1.77	2.21	2.71	3.26	3.85	4.5	5.2	5.94	6.74	7.58	8.48	9.42	10.42	11.46	12.56	13.7	14.9	16.14			
50 x 3	Fv	41570	28868	21209	16238	12830	10392	8589	7217	6149	5302	4619	4060	3596	3208	2879	2598	2357	2147	1965	1804	1663			
	f _v	0.78	1.12	1.52	1.99	2.52	3.11	3.76	4.48	5.25	6.09	6.99	7.96	8.98	10.07	11.22	12.43	13.71	15.04	16.44	17.9	19.43			
	Fp	2968	2375	1979	1696	1484	1319	1187	1079	989	913	848	792	742	698	660	625	594	565	540	516	495			
	f _p	0.72	1.02	1.37	1.77	2.21	2.71	3.26	3.85	4.5	5.2	5.94	6.74	7.58	8.48	9.42	10.42	11.46	12.56	13.7	14.9	16.14			
50 x 4	Fv	55427	38491	28279	21651	17107	13857	11452	9623	8199	7070	6159	5413	4758	4277	3838	3464	3142	2863	2619	2406	22172			

Table of loads of press-welded gratings for pitch a = 21.63 mm

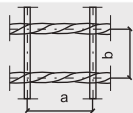
Material: Steel. Analytical value of safety factor γ=1.5.		a × b 21.63 × 24.0 21.63 × 38.1		Loads according to the below table		a × b 21.63 × 50.8 21.63 × 76.2 21.63 × 101.6		Loads according to the below table minus 5%		a - load bearing bar pitch														b - transverse bar pitch			
										Supports spacing c/c [mm]																	
load bearing bar		500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500					
		Fv	3090	2146	1577	1207	954	773	639	537	457	394	343	302	267	238	214	193	175	160	146	134	124				
20 × 2	f _v	1.94	2.8	3.81	4.97	6.29	7.77	9.4	11.19	13.13	15.23	17.49	19.89	22.46	25.18	28.05	31.08	34.27	37.61	41.11	44.76	48.57					
	Fp	240	192	160	137	120	107	96	87	80	74	69	64	60	57	53	51	48	46	44	42	40					
	f _p	1.8	2.55	3.42	4.41	5.53	6.78	8.14	9.64	11.25	12.99	14.86	16.85	18.96	21.2	23.56	26.05	28.66	31.4	34.26	37.24	40.35					
20 × 3	Fv	4636	3219	2365	1811	1431	1159	958	805	686	591	515	453	401	358	321	290	263	239	219	201	185					
	f _v	1.94	2.8	3.81	4.97	6.29	7.77	9.4	11.19	13.13	15.23	17.49	19.89	22.46	25.18	28.05	31.08	34.27	37.61	41.11	44.76	48.57					
	Fp	360	288	240	206	180	160	144	131	120	111	103	96	90	85	80	76	72	69	65	63	60					
25 × 2	f _p	1.8	2.55	3.42	4.41	5.53	6.78	8.14	9.64	11.25	12.99	14.86	16.85	18.96	21.2	23.56	26.05	28.66	31.4	34.26	37.24	40.35					
	Fv	4829	3353	2464	1886	1490	1207	998	838	714	616	537	472	418	373	334	302	274	249	228	210	193					
	f _v	1.55	2.24	3.05	3.98	5.04	6.22	7.52	8.95	10.51	12.19	13.99	15.92	17.97	20.14	22.44	24.87	27.42	30.09	32.89	35.81	38.86					
25 × 3	Fp	373	299	249	213	187	166	149	136	124	115	107	100	93	88	83	79	75	71	68	65	62					
	f _p	1.44	2.04	2.74	3.53	4.43	5.42	6.52	7.71	9	10.39	11.89	13.48	15.17	16.96	18.85	20.84	22.93	25.12	27.4	29.79	32.28					
	Fv	7243	5030	3695	2829	2236	1811	1496	1257	1071	924	805	707	627	559	502	453	411	374	342	314	290					
25 × 4	f _v	1.55	2.24	3.05	3.98	5.04	6.22	7.52	8.95	10.51	12.19	13.99	15.92	17.97	20.14	22.44	24.87	27.42	30.09	32.89	35.81	38.86					
	Fp	560	448	373	320	280	249	224	204	187	172	160	149	140	132	124	118	112	107	102	97	93					
	f _p	1.44	2.04	2.74	3.53	4.43	5.42	6.52	7.71	9	10.39	11.89	13.48	15.17	16.96	18.85	20.84	22.93	25.12	27.4	29.79	32.28					
25 × 5	Fv	9657	6707	4927	3772	2981	2414	1995	1677	1429	1232	1073	943	835	745	669	604	547	499	456	419	386					
	f _v	1.55	2.24	3.05	3.98	5.04	6.22	7.52	8.95	10.51	12.19	13.99	15.92	17.97	20.14	22.44	24.87	27.42	30.09	32.89	35.81	38.86					
	Fp	747	597	498	427	373	332	299	271	249	230	213	199	187	176	166	157	149	142	136	130	124					
30 × 2	f _p	1.44	2.04	2.74	3.53	4.43	5.42	6.52	7.71	9	10.39	11.89	13.48	15.17	16.96	18.85	20.84	22.93	25.12	27.4	29.79	32.28					
	Fv	12072	8383	6159	4716	3726	3018	2494	2096	1786	1540	1341	1179	1044	931	836	754	684	624	570	524	483					
	f _v	1.55	2.24	3.05	3.98	5.04	6.22	7.52	8.95	10.51	12.19	13.99	15.92	17.97	20.14	22.44	24.87	27.42	30.09	32.89	35.81	38.86					
30 × 3	Fp	933	747	622	533	467	415	373	339	311	287	267	249	233	220	207	196	187	178	170	162	156					
	f _p	1.44	2.04	2.74	3.53	4.43	5.42	6.52	7.71	9	10.39	11.89	13.48	15.17	16.96	18.85	20.84	22.93	25.12	27.4	29.79	32.28					
	Fv	6953	4829	3548	2716	2146	1738	1437	1207	1029	887	773	679	601	537	482	435	394	359	329	302	278					
30 × 4	f _v	1.3	1.87	2.54	3.32	4.2	5.18	6.27	7.46	8.76	10.15	11.66	13.26	14.97	16.79	18.7	20.72	22.85	25.07	27.41	29.84	32.38					
	Fp	535	428	356	306	267	238	214	194	178	165	153	143	134	126	119	113	107	102	97	93	89					
	f _p	1.2	1.7	2.28	2.94	3.69	4.52	5.43	6.42	7.5	8.66	9.91	11.23	12.64	14.13	15.71	17.37	19.11	20.93	22.84	24.83	26.9					
30 × 5	Fv	10430	7243	5321	4074	3219	2607	2155	1811	1543	1330	1159	1019	902	805	722	652	591	539	493	453	417					
	f _v	1.3	1.87	2.54	3.32	4.2	5.18	6.27	7.46	8.76	10.15	11.66	13.26	14.97	16.79	18.7	20.72	22.85	25.07	27.41	29.84	32.38					
	Fp	802	642	535	458	401	356	321	292	267	247	229	214	201	189	178	169	160	153	146	139	134					
40 × 2	f _p	1.2	1.7	2.28	2.94	3.69	4.52	5.43	6.42	7.5	8.66	9.91	11.23	12.64	14.13	15.71	17.37	19.11	20.93	22.84	24.83	26.9					
	Fv	13907	9657	7095	5432	4292	3477	2873	2414	2057	1774	1545	1358	1203	1073	963	869	788	718	657	604	556					
	f _v	1.3	1.87	2.54	3.32	4.2	5.18	6.27	7.46	8.76	10.15	11.66	13.26	14.97	16.79	18.7	20.72	22.85	25.07	27.41	29.84	32.38					
40 × 3	Fp	1069	856	713	611	535	475	428	389	356	329	306	285	267	252	238	225	214	204	194	186	178					
	f _p	1.2	1.7	2.28	2.94	3.69	4.52	5.43	6.42	7.5	8.66	9.91	11.23	12.64	14.13	15.71	17.37	19.11	20.93	22.84	24.83	26.9					
	Fv	17383	12072	8869	6790	5365	4346	3592	3018	2571	2217	1931	1698	1504	1341	1204	1086	985	898	822	754	695					
40 × 4	f _v	1.3	1.87	2.54	3.32	4.2	5.18	6.27	7.46	8.76	10.15	11.66	13.26	14.97	16.79	18.7	20.72	22.85	25.07	27.41	29.84	32.38					
	Fp	1337	1069	891	764	668	594	535	486	446	411	382	356	334	315	297	281	267	255	243	232	223					
	f _p	1.2	1.7	2.28	2.94	3.69	4.52	5.43	6.42	7.5	8.66	9.91	11.23	12.64	14.13	15.71	17.37	19.11	20.93	22.84	24.83	26.9					
40 × 5	Fv	12361	8584	6307	4829	3815	3090	2554	2146	1829	1577	1373	1207	1069	954	856	773	701	639	584	537	494					
	f _v	0.97	1.4	1.9	2.49	3.15	3.89	4.7	5.6	6.57	7.62	8.74	9.95	11.23	12.59	14.03	15.54	17.14	18.81	20.55	22.38	24.28					
	Fp	941	752	627	537	470	418	376	342	314	289	269	251	235	221	209	198	188	179	171	164	157					
50 × 2	f _p	0.9	1.27	1.71	2.21	2.77	3.39	4.07	4.82	5.63	6.5	7.43	8.42	9.48	10.6	11.78	13.02	14.33	15.7	17.13	18.62	20.17					
	Fv	18542	12876	9460	7243	5723	4636	3831	3219	2743	2365	2060	1811	1604	1431	1284	1159	1051	958	876	805	742					
	f _v	0.97	1.4	1.9	2.49	3.15	3.89	4.7	5.6	6.57	7.62	8.74	9.95	11.23	12.59	14.03	15.54	17.14	18.81	20.55	22.38	24.28					
50 × 3	Fp	1411	1129	941	806	705	627	564	513	470	434	403	376	353	332	314	297	282	269	257	245	235					
	f _p	0.9	1.27	1.71	2.21	2.77	3.39	4.07	4.82	5.63	6.5	7.43	8.42	9.48	10.6	11.78	13.02	14.33	15.7	17.13	18.62	20.17					
	Fv	24723	17169	12614	9657	7631	6181	5108	4292	3657	3153	2747	2414	2139	1908	1712	1545	1402	1277	1168	1073	989					
50 × 4	f _v	0.97	1.4	1.9	2.49	3.15	3.89	4.7	5.6	6.57	7.62	8.74	9.95	11.23	12.59	14.03	15.54	17.14	18.81	20.55	22.38	24.28					
	Fp	1881	1505	1254	1075	941	836	752	684	627	579	537	502	470	443	418	396	376	358	342	327	314					
	f _p	0.9	1.27	1.71	2.21	2.77	3.39	4.07	4.82	5.63	6.5	7.43	8.42	9.48	10.6	11.78	13.02	14.33	15.7	17.13	18.62	20.17					
50 × 5	Fv	30904	21461	15767	12072	9538	7726	6385	5365	4572	3942	3434	3018	2673	2385	2140	1931	1752	1596	14							

Table of loads of press-welded gratings for pitch a = 25.5 mm

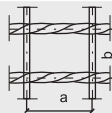
Material: Steel. Analytical value of safety factor $\gamma=1.5$.										a - load bearing bar pitch												b - transverse bar pitch			
a x b 25.5 x 24.0 25.5 x 38.1			Loads according to the below table			a x b 25.5 x 50.8 25.5 x 76.2 25.5 x 101.6			Loads according to the below table minus 5%																
load bearing bar	Supports spacing c/c [mm]																								
		500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500			
20 x 2	Fv	2543	1766	1298	993	785	636	525	442	376	324	283	248	220	196	176	159	144	131	120	110	102			
	f _v	0,19	0,27	0,37	0,48	0,61	0,75	0,91	1,09	1,27	1,48	1,70	1,93	2,18	2,44	2,72	3,02	3,33	3,65	3,99	4,34	4,71			
	Fp	211	169	140	120	105	94	84	77	70	65	60	56	53	50	47	44	42	40	38	37	35			
	f _p	0,17	0,25	0,33	0,43	0,54	0,66	0,79	0,93	1,09	1,26	1,44	1,63	1,84	2,06	2,29	2,53	2,78	3,05	3,32	3,61	3,91			
20 x 3	Fv	3815	2649	1946	1490	1177	954	788	662	564	487	424	373	330	294	264	238	216	197	180	166	153			
	f _v	0,19	0,27	0,37	0,48	0,61	0,75	0,91	1,09	1,27	1,48	1,70	1,93	2,18	2,44	2,72	3,02	3,33	3,65	3,99	4,34	4,71			
	Fp	316	253	211	181	158	140	126	115	105	97	90	84	79	74	70	67	63	60	57	55	53			
	f _p	0,17	0,25	0,33	0,43	0,54	0,66	0,79	0,93	1,09	1,26	1,44	1,63	1,84	2,06	2,29	2,53	2,78	3,05	3,32	3,61	3,91			
25 x 2	Fv	3974	2760	2027	1552	1226	993	821	690	588	507	422	388	344	307	275	248	225	205	188	172	159			
	f _v	0,15	0,22	0,30	0,39	0,49	0,60	0,73	0,87	1,02	1,18	1,36	1,54	1,74	1,95	2,18	2,41	2,66	2,92	3,19	3,47	3,77			
	Fp	327	262	218	187	164	145	131	119	109	101	93	87	82	77	73	69	65	62	59	57	55			
	f _p	0,14	0,20	0,27	0,34	0,43	0,53	0,63	0,75	0,87	1,01	1,15	1,31	1,47	1,65	1,83	2,02	2,22	2,44	2,66	2,89	3,13			
25 x 3	Fv	5961	4139	3041	2328	1840	1490	1232	1035	882	760	662	582	516	460	413	373	338	308	282	259	238			
	f _v	0,15	0,22	0,30	0,39	0,49	0,60	0,73	0,87	1,02	1,18	1,36	1,54	1,74	1,95	2,18	2,41	2,66	2,92	3,19	3,47	3,77			
	Fp	491	393	327	280	245	218	196	178	164	151	140	131	123	115	109	103	98	93	89	85	82			
	f _p	0,14	0,20	0,27	0,34	0,43	0,53	0,63	0,75	0,87	1,01	1,15	1,31	1,47	1,65	1,83	2,02	2,22	2,44	2,66	2,89	3,13			
25 x 4	Fv	7948	5519	4055	3105	2453	1987	1642	1380	1176	1014	883	776	688	613	550	497	451	411	376	345	318			
	f _v	0,15	0,22	0,30	0,39	0,49	0,60	0,73	0,87	1,02	1,18	1,36	1,54	1,74	1,95	2,18	2,41	2,66	2,92	3,19	3,47	3,77			
	Fp	654	524	436	374	327	291	262	238	218	201	187	175	164	154	145	138	131	125	119	114	109			
	f _p	0,14	0,20	0,27	0,34	0,43	0,53	0,63	0,75	0,87	1,01	1,15	1,31	1,47	1,65	1,83	2,02	2,22	2,44	2,66	2,89	3,13			
25 x 5	Fv	9935	6899	5069	3881	3066	2484	2053	1725	1470	1267	1104	970	859	767	688	621	563	513	470	431	397			
	f _v	0,15	0,22	0,30	0,39	0,49	0,60	0,73	0,87	1,02	1,18	1,36	1,54	1,74	1,95	2,18	2,41	2,66	2,92	3,19	3,47	3,77			
	Fp	818	654	545	467	409	364	327	297	273	252	234	218	205	192	182	172	164	156	149	142	136			
	f _p	0,14	0,20	0,27	0,34	0,43	0,53	0,63	0,75	0,87	1,01	1,15	1,31	1,47	1,65	1,83	2,02	2,22	2,44	2,66	2,89	3,13			
30 x 2	Fv	5722	3974	2920	2235	1766	1431	1182	993	847	730	636	559	495	442	396	358	324	296	270	248	229			
	f _v	0,13	0,18	0,25	0,32	0,41	0,50	0,61	0,72	0,85	0,99	1,13	1,29	1,45	1,63	1,81	2,01	2,22	2,43	2,66	2,90	3,14			
	Fp	468	375	312	268	234	208	187	170	156	144	134	125	117	110	104	99	94	89	85	81	78			
	f _p	0,12	0,16	0,22	0,29	0,36	0,44	0,53	0,62	0,73	0,84	0,96	1,09	1,23	1,37	1,52	1,68	1,85	2,03	2,22	2,41	2,61			
30 x 3	Fv	8584	5961	4379	3353	2649	2146	1773	1490	1270	1095	954	838	743	662	594	536	487	443	406	373	343			
	f _v	0,13	0,18	0,25	0,32	0,41	0,50	0,61	0,72	0,85	0,99	1,13	1,29	1,45	1,63	1,81	2,01	2,22	2,43	2,66	2,90	3,14			
	Fp	703	562	468	402	351	312	281	256	234	216	201	187	176	165	156	148	141	134	128	122	117			
	f _p	0,12	0,16	0,22	0,29	0,36	0,44	0,53	0,62	0,73	0,84	0,96	1,09	1,23	1,37	1,52	1,68	1,85	2,03	2,22	2,41	2,61			
30 x 4	Fv	11445	7948	5839	4471	3532	2861	2365	1987	1693	1460	1272	1118	990	883	793	715	649	591	541	497	458			
	f _v	0,13	0,18	0,25	0,32	0,41	0,50	0,61	0,72	0,85	0,99	1,13	1,29	1,45	1,63	1,81	2,01	2,22	2,43	2,66	2,90	3,14			
	Fp	937	750	625	535	468	416	375	341	312	288	268	250	234	220	208	197	187	178	170	163	156			
	f _p	0,12	0,16	0,22	0,29	0,36	0,44	0,53	0,62	0,73	0,84	0,96	1,09	1,23	1,37	1,52	1,68	1,85	2,03	2,22	2,41	2,61			
30 x 5	Fv	14306	9935	7299	5588	4415	3576	2956	2484	2116	1825	1590	1397	1238	1104	991	894	811	739	676	621	572			
	f _v	0,13	0,18	0,25	0,32	0,41	0,50	0,61	0,72	0,85	0,99	1,13	1,29	1,45	1,63	1,81	2,01	2,22	2,43	2,66	2,90	3,14			
	Fp	1171	937	781	669	586	521	468	426	390	360	335	312	293	276	260	247	234	223	213	204	195			
	f _p	0,12	0,16	0,22	0,29	0,36	0,44	0,53	0,62	0,73	0,84	0,96	1,09	1,23	1,37	1,52	1,68	1,85	2,03	2,22	2,41	2,61			
40 x 2	Fv	10173	7065	5190	3974	3140	2543	2102	1766	1505	1298	1130	993	880	785	705	636	577	525	481	442	407			
	f _v	0,09	0,14	0,18	0,24	0,31	0,38	0,46	0,54	0,64	0,74	0,85	0,97	1,09	1,22	1,36	1,51	1,66	1,82	1,99	2,17	2,36			
	Fp	823	658	549	470	412	366	329	299	274	253	235	219	206	194	183	173	165	157	150	143	137			
	f _p	0,09	0,12	0,17	0,21	0,27	0,33	0,40	0,47	0,55	0,63	0,72	0,82	0,92	1,03	1,14	1,26	1,39	1,52	1,66	1,81	1,96			
40 x 3	Fv	15260	10597	7786	5961	4710	3815	3153	2649	2257	1946	1696	1490	1320	1177	1057	954	865	788	721	662	610			
	f _v	0,09	0,14	0,18	0,24	0,31	0,38	0,46	0,54	0,64	0,74	0,85	0,97	1,09	1,22	1,36	1,51	1,66	1,82	1,99	2,17	2,36			
	Fp	1235	988	823	705	617	549	494	449	412	380	353	329	309	290	274	260	247	235	224	215	206			
	f _p	0,09	0,12	0,17	0,21	0,27	0,33	0,40	0,47	0,55	0,63	0,72	0,82	0,92	1,03	1,14	1,26	1,39	1,52	1,66	1,81	1,96			
40 x 4	Fv	20346	14129	10381	7948	6280	5087	4204	3532	3010	2595	2261	1987	1760	1570	1409	1272	1153	1051	962	883	814			
	f _v	0,09	0,14	0,18	0,24	0,31	0,38	0,46	0,54	0,64	0,74	0,85	0,97	1,09	1,22	1,36	1,51	1,66	1,82	1,99	2,17	2,36			
	Fp	1646	1317	1097	941	823	732	658	599	549	507	470	439	412	387	366	347	329	314	299	286	274			
	f _p	0,09	0,12	0,17	0,21	0,27																			

Table of loads of press-welded gratings for pitch a = 34.3 mm

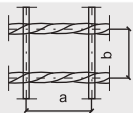
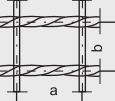
Material: Steel. Analytical value of safety factor $\gamma=1.5$.		Supports spacing c/c [mm]																																									
load bearing bar		a x b 34.3 x 24.0 34.3 x 38.1				a x b 34.3 x 50.8 34.3 x 76.2 34.3 x 101.6				Loads according to the below table minus 5%																																	
		Loads according to the below table				Loads according to the below table minus 5%																																					
				a - load bearing bar pitch b - transverse bar pitch																																							
		500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500																					
20 x 2	Fv	2048	1422	1045	800	632	512	423	356	303	261	228	200	177	158	142	128	116	106	97	89	82																					
	f _v	0.20	0.29	0.39	0.51	0.64	0.79	0.96	1.14	1.34	1.56	1.79	2.03	2.29	2.57	2.87	3.17	3.50	3.84	4.20	4.57	4.96																					
	Fp	172	138	115	98	86	76	69	63	57	53	49	46	43	40	38	36	34	33	31	30	29																					
	f _p	0.20	0.27	0.36	0.46	0.58	0.71	0.85	1	1.16	1.34	1.53	1.73	1.95	2.18	2.42	2.67	2.94	3.22	3.51	3.82	4.13																					
20 x 3	Fv	3072	2133	1567	1200	948	768	635	533	454	392	341	300	266	237	213	192	174	159	145	133	123																					
	f _v	0.20	0.29	0.39	0.51	0.64	0.79	0.96	1.14	1.34	1.56	1.79	2.03	2.29	2.57	2.87	3.17	3.50	3.84	4.20	4.57	4.96																					
	Fp	258	206	172	148	129	115	103	94	86	80	74	69	64	61	58	54	52	49	47	45	43																					
	f _p	0.20	0.27	0.36	0.46	0.58	0.71	0.85	1	1.16	1.34	1.53	1.73	1.95	2.18	2.42	2.67	2.94	3.22	3.51	3.82	4.13																					
25 x 2	Fv	3195	2219	1630	1248	986	799	660	555	473	408	355	312	276	247	221	200	181	165	151	139	128																					
	f _v	0.16	0.23	0.31	0.41	0.51	0.63	0.77	0.91	1.07	1.24	1.43	1.62	1.83	2.05	2.29	2.54	2.80	3.07	3.35	3.65	3.96																					
	Fp	267	213	178	152	133	119	106	97	89	82	76	72	67	63	60	56	54	51	49	46	44																					
	f _p	0.16	0.22	0.29	0.37	0.46	0.56	0.67	0.80	0.93	1.07	1.22	1.38	1.56	1.74	1.93	2.14	2.35	2.57	2.80	3.05	3.30																					
25 x 3	Fv	4792	3328	2445	1872	1479	1198	990	832	709	611	532	468	415	370	332	300	272	248	226	208	192																					
	f _v	0.16	0.23	0.31	0.41	0.51	0.63	0.77	0.91	1.07	1.24	1.43	1.62	1.83	2.05	2.29	2.54	2.80	3.07	3.35	3.65	3.96																					
	Fp	400	320	267	229	200	178	161	146	133	123	115	107	100	94	89	84	80	76	73	70	67																					
	f _p	0.16	0.22	0.29	0.37	0.46	0.56	0.67	0.80	0.93	1.07	1.22	1.38	1.56	1.74	1.93	2.14	2.35	2.57	2.80	3.05	3.30																					
25 x 4	Fv	6390	4437	3260	2496	1972	1597	1320	1109	945	815	710	624	553	493	443	399	362	330	302	277	256																					
	f _v	0.16	0.23	0.31	0.41	0.51	0.63	0.77	0.91	1.07	1.24	1.43	1.62	1.83	2.05	2.29	2.54	2.80	3.07	3.35	3.65	3.96																					
	Fp	534	427	356	306	267	237	214	194	178	165	153	142	133	125	119	112	107	102	97	93	89																					
	f _p	0.16	0.22	0.29	0.37	0.46	0.56	0.67	0.80	0.93	1.07	1.22	1.38	1.56	1.74	1.93	2.14	2.35	2.57	2.80	3.05	3.30																					
25 x 5	Fv	7987	5547	4075	3120	2465	1997	1650	1387	1182	1019	887	780	691	616	553	499	453	413	377	347	319																					
	f _v	0.16	0.23	0.31	0.41	0.51	0.63	0.77	0.91	1.07	1.24	1.43	1.62	1.83	2.05	2.29	2.54	2.80	3.07	3.35	3.65	3.96																					
	Fp	667	534	445	381	344	297	267	243	222	206	191	178	167	157	148	140	133	127	121	117	112																					
	f _p	0.16	0.22	0.29	0.37	0.46	0.56	0.67	0.80	0.93	1.07	1.22	1.38	1.56	1.74	1.93	2.14	2.35	2.57	2.80	3.05	3.30																					
30 x 2	Fv	4608	3200	2351	1800	1422	1152	952	800	682	588	512	450	399	356	319	288	261	238	218	200	184																					
	f _v	0.13	0.19	0.26	0.34	0.43	0.53	0.64	0.76	0.89	1.04	1.19	1.35	1.53	1.71	1.91	2.12	2.33	2.56	2.80	3.05	3.31																					
	Fp	382	306	255	218	191	169	153	139	127	118	109	102	96	90	85	80	76	73	70	67	64																					
	f _p	0.13	0.18	0.24	0.31	0.39	0.47	0.56	0.66	0.77	0.89	1.02	1.16	1.30	1.45	1.61	1.78	1.96	2.15	2.34	2.54	2.76																					
30 x 3	Fv	6912	4800	3527	2700	2133	1728	1428	1200	1022	882	768	675	598	533	479	432	392	357	327	300	276																					
	f _v	0.13	0.19	0.26	0.34	0.43	0.53	0.64	0.76	0.89	1.04	1.19	1.35	1.53	1.71	1.91	2.12	2.33	2.56	2.80	3.05	3.31																					
	Fp	573	458	382	327	287	255	229	209	191	176	164	153	143	135	127	120	115	109	104	100	96																					
	f _p	0.13	0.18	0.24	0.31	0.39	0.47	0.56	0.66	0.77	0.89	1.02	1.16	1.30	1.45	1.61	1.78	1.96	2.15	2.34	2.54	2.76																					
30 x 4	Fv	9216	6400	4702	3600	2844	2304	1904	1600	1363	1176	1024	900	797	711	638	576	522	476	436	400	369																					
	f _v	0.13	0.19	0.26	0.34	0.43	0.53	0.64	0.76	0.89	1.04	1.19	1.35	1.53	1.71	1.91	2.12	2.33	2.56	2.80	3.05	3.31																					
	Fp	764	611	509	439	382	340	306	278	255	235	218	204	191	180	169	161	153	146	139	133	127																					
	f _p	0.13	0.18	0.24	0.31	0.39	0.47	0.56	0.66	0.77	0.89	1.02	1.16	1.30	1.45	1.61	1.78	1.96	2.15	2.34	2.54	2.76																					
30 x 5	Fv	11520	8000	5878	4500	3556	2880	2380	2000	1704	1469	1280	1125	997	889	798	720	653	595	544	500	461																					
	f _v	0.13	0.19	0.26	0.34	0.43	0.53	0.64	0.76	0.89	1.04	1.19	1.35	1.53	1.71	1.91	2.12	2.33	2.56	2.80	3.05	3.31																					
	Fp	956	764	636	545	478	425	382	348	319	294	273	255	239	225	213	201	191	182	173	167	160																					
	f _p	0.13	0.18	0.24	0.31	0.39	0.47	0.56	0.66	0.77	0.89	1.02	1.16	1.30	1.45	1.61	1.78	1.96	2.15	2.34	2.54	2.76																					
40 x 2	Fv	8187	5685	4177	3198	2527	2047	1692	1421	1211	1044	910	800	708	632	567	512	464	423	387	355	327																					
	f _v	0.1	0.14	0.19	0.25	0.32	0.40	0.48	0.57	0.67	0.78	0.89	1.02	1.15	1.28	1.43	1.59	1.75	1.92	2.10	2.28	2.48																					
	Fp	667	534	445	382	334	297	267	243	222	206	191	178	167	158	149	141	133	127	121	117	112																					
	f _p	0.10	0.14	0.18	0.23	0.29	0.35	0.42	0.50	0.58	0.67	0.76	0.87	0.97	1.09	1.21	1.34	1.47	1.61	1.75	1.91	2.07																					
40 x 3	Fv	12288	8533	6269	4800	3793	3072	2539	2133	1818	1567	1365	1200	1063	948	851	768	697	635	581	533	492																					
	f _v	0.10	0.14	0.19	0.25	0.32	0.40	0.48	0.57	0.67	0.78	0.89	1.02	1.15	1.28	1.43	1.59	1.75	1.92	2.10	2.28	2.48																					
	Fp	1002	802	669	573	501	445	401	364	334	308	287	267	251	236	223	211	201	191	182	174	167																					
	f _p	0.10	0.14	0.18	0.23	0.29	0.35	0.42	0.50	0.58	0.67	0.76	0.87	0.97	1.09	1.21	1.34	1.47	1.61	1.75	1.91	2.07																					
40 x 4	Fv	16374	11371	8354	6396	5054	4093	3383	2843	2422	2088	1819	1599	1416	1263	1134	1023	928	846	774	711	655																					
	f _v	0.10	0.14	0.19	0.25	0.32	0.40	0.48	0.57	0.67	0.78	0.89	1.02	1.15	1.28	1.43	1.59	1.75	1.92	2.10	2.28	2.48																					
	Fp	1335	1069	891	763	668	593	534	486	445	411	382	356	334	314	297	281	267	255	243	232	222																					
	f _p	0.10	0.14	0.18	0.23	0.29	0.35	0.42	0.50	0.58	0.67	0.76	0.87	0.97	1.09	1.21	1.34	1.47	1.61	1.75	1.91	2.07																					
40 x 5	Fv	20475	14219	10446	7998	6319	5119	4230	3555	3029	2612	2275	2000	1771	1580	1418	1280	1161	1058	968	889	819																					
	f _v	0.10	0.14	0.19	0.25	0.32	0.40	0.48	0.57	0.67																																	

Table of loads of press-welded gratings for pitch a = 43.26 mm

Material: Steel. Analytical value of safety factor $\gamma=1.5$.																																					
a x b 43.26 x 24.0 43.26 x 38.1		Loads according to the below table		a x b 43.26 x 50.8 43.26 x 76.2 43.26 x 101.6		Loads according to the below table minus 5%		a - load bearing bar pitch																	b - transverse bar pitch												
load bearing bar		Supports spacing c/c [mm]																																			
		500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500															
20 x 2	Fv	1545	1073	788	604	477	386	319	268	229	197	172	151	134	119	107	97	88	80	73	67	62															
	f _v	1,94	2,8	3,81	4,97	6,29	7,77	9,4	11,19	13,13	15,23	17,49	19,89	22,46	25,18	28,05	31,08	34,27	37,61	41,11	44,76	48,57															
	Fp	144	115	96	82	72	64	57	52	48	44	41	38	36	34	32	30	29	27	26	25	24															
	f _p	1,8	2,55	3,42	4,41	5,53	6,78	8,14	9,64	11,25	12,99	14,86	16,85	18,96	21,2	23,56	26,05	28,66	31,4	34,26	37,24	40,35															
20 x 3	Fv	2318	1610	1183	905	715	579	479	402	343	296	258	226	200	179	161	145	131	120	110	101	93															
	f _v	1,94	2,8	3,81	4,97	6,29	7,77	9,4	11,19	13,13	15,23	17,49	19,89	22,46	25,18	28,05	31,08	34,27	37,61	41,11	44,76	48,57															
	Fp	215	172	144	123	108	96	86	78	72	66	62	57	54	51	48	45	43	41	39	37	36															
	f _p	1,8	2,55	3,42	4,41	5,53	6,78	8,14	9,64	11,25	12,99	14,86	16,85	18,96	21,2	23,56	26,05	28,66	31,4	34,26	37,24	40,35															
25 x 2	Fv	2414	1677	1232	943	745	604	499	419	357	308	268	236	209	186	167	151	137	125	114	105	97															
	f _v	1,55	2,24	3,05	3,98	5,04	6,22	7,52	8,95	10,51	12,19	13,99	15,92	17,97	20,14	22,44	24,87	27,42	30,09	32,89	35,81	38,86															
	Fp	222	178	148	127	111	99	89	81	74	68	64	59	56	52	49	47	44	42	40	39	37															
	f _p	1,44	2,04	2,74	3,53	4,43	5,42	6,52	7,71	9	10,39	11,89	13,48	15,17	16,96	18,85	20,84	22,93	25,12	27,4	29,79	32,28															
25 x 3	Fv	3622	2515	1848	1415	1118	905	748	629	536	462	402	354	313	279	251	226	205	187	171	157	145															
	f _v	1,55	2,24	3,05	3,98	5,04	6,22	7,52	8,95	10,51	12,19	13,99	15,92	17,97	20,14	22,44	24,87	27,42	30,09	32,89	35,81	38,86															
	Fp	334	267	222	191	167	148	133	121	111	103	95	89	83	78	74	70	67	64	61	58	56															
	f _p	1,44	2,04	2,74	3,53	4,43	5,42	6,52	7,71	9	10,39	11,89	13,48	15,17	16,96	18,85	20,84	22,93	25,12	27,4	29,79	32,28															
25 x 4	Fv	4829	3353	2464	1886	1490	1207	998	838	714	616	537	472	418	373	334	302	274	249	228	210	193															
	f _v	1,55	2,24	3,05	3,98	5,04	6,22	7,52	8,95	10,51	12,19	13,99	15,92	17,97	20,14	22,44	24,87	27,42	30,09	32,89	35,81	38,86															
	Fp	445	356	297	254	222	198	178	162	148	137	127	119	111	105	99	94	89	85	81	77	74															
	f _p	1,03	1,46	1,95	2,52	3,16	3,87	4,65	5,51	6,43	7,42	8,49	9,63	10,84	12,11	13,46	14,89	16,38	17,94	19,57	21,28	23,06															
25 x 5	Fv	6036	4192	3080	2358	1863	1509	1247	1048	893	770	671	589	522	466	418	377	342	312	285	262	241															
	f _v	1,55	2,24	3,05	3,98	5,04	6,22	7,52	8,95	10,51	12,19	13,99	15,92	17,97	20,14	22,44	24,87	27,42	30,09	32,89	35,81	38,86															
	Fp	556	445	371	318	278	247	222	202	185	171	159	148	139	131	124	117	111	106	101	97	93															
	f _p	1,44	2,04	2,74	3,53	4,43	5,42	6,52	7,71	9	10,39	11,89	13,48	15,17	16,96	18,85	20,84	22,93	25,12	27,4	29,79	32,28															
30 x 2	Fv	3477	2414	1774	1358	1073	869	718	604	514	443	386	340	301	268	241	217	197	180	164	151	139															
	f _v	1,3	1,87	2,54	3,32	4,2	5,18	6,27	7,46	8,76	10,15	11,66	13,26	14,97	16,79	18,7	20,72	22,85	25,07	27,41	29,84	32,38															
	Fp	317	254	212	181	159	141	127	115	106	98	91	85	79	75	71	67	63	60	58	55	53															
	f _p	1,2	1,7	2,28	2,94	3,69	4,52	5,43	6,42	7,5	8,66	9,91	11,23	12,64	14,13	15,71	17,37	19,11	20,93	22,84	24,83	26,9															
30 x 3	Fv	5215	3622	2661	2037	1610	1304	1077	905	771	665	579	509	451	402	361	326	296	269	246	226	209															
	f _v	1,3	1,87	2,54	3,32	4,2	5,18	6,27	7,46	8,76	10,15	11,66	13,26	14,97	16,79	18,7	20,72	22,85	25,07	27,41	29,84	32,38															
	Fp	476	381	317	272	238	212	190	173	159	146	136	127	119	112	106	100	95	91	87	83	79															
	f _p	1,2	1,7	2,28	2,94	3,69	4,52	5,43	6,42	7,5	8,66	9,91	11,23	12,64	14,13	15,71	17,37	19,11	20,93	22,84	24,83	26,9															
30 x 4	Fv	6953	4829	3548	2716	2146	1738	1437	1207	1029	887	773	679	601	537	482	435	394	359	329	302	278															
	f _v	1,3	1,87	2,54	3,32	4,2	5,18	6,27	7,46	8,76	10,15	11,66	13,26	14,97	16,79	18,7	20,72	22,85	25,07	27,41	29,84	32,38															
	Fp	635	508	423	363	317	282	254	231	212	195	181	169	159	149	141	134	127	121	115	110	106															
	f _p	1,2	1,7	2,28	2,94	3,69	4,52	5,43	6,42	7,5	8,66	9,91	11,23	12,64	14,13	15,71	17,37	19,11	20,93	22,84	24,83	26,9															
30 x 5	Fv	8692	6036	4435	3395	2683	2173	1796	1509	1286	1109	966	849	752	671	602	543	493	449	411	377	348															
	f _v	1,3	1,87	2,54	3,32	4,2	5,18	6,27	7,46	8,76	10,15	11,66	13,26	14,97	16,79	18,7	20,72	22,85	25,07	27,41	29,84	32,38															
	Fp	794	635	529	453	397	353	317	289	265	244	227	212	198	187	176	167	159	151	144	138	132															
	f _p	1,2	1,7	2,28	2,94	3,69	4,52	5,43	6,42	7,5	8,66	9,91	11,23	12,64	14,13	15,71	17,37	19,11	20,93	22,84	24,83	26,9															
40 x 2	Fv	6181	4292	3153	2414	1908	1545	1277	1073	914	788	687	604	535	477	428	386	350	319	292	268	247															
	f _v	0,97	1,4	1,9	2,49	3,15	3,89	4,7	5,6	6,57	7,62	8,74	9,95	11,23	12,59	14,03	15,54	17,14	18,81	20,55	22,38	24,28															
	Fp	554	443	369	317	277	246	222	202	185	171	158	148	139	130	123	117	111	106	101	96	92															
	f _p	0,9	1,27	1,71	2,21	2,77	3,39	4,07	4,82	5,63	6,5	7,43	8,42	9,48	10,6	11,78	13,02	14,33	15,7	17,13	18,62	20,17															
40 x 3	Fv	9271	6438	4730	3622	2861	2318	1916	1610	1371	1183	1030	905	802	715	642	579	526	479	438	402	371															
	f _v	0,97	1,4	1,9	2,49	3,15	3,89	4,7	5,6	6,57	7,62	8,74	9,95	11,23	12,59	14,03	15,54	17,14	18,81	20,55	22,38	24,28															
	Fp	831	665	554	475	416	369	333	302	277	256	238	222	208	196	185	175	166	158	151	145	139															
	f _p	0,9	1,27	1,71	2,21	2,77	3,39	4,07	4,82	5,63	6,5	7,43	8,42	9,48	10,6	11,78	13,02	14,33	15,7	17,13	18,62	20,17															
40 x 4	Fv	12361	8584	6307	4829	3815	3090	2554	2146	1829	1577	1373	1207	1069	954	856	773	701	639	584	537	494															
	f _v	0,97	1,4	1,9	2,49	3,15	3,89	4,7	5,6	6,57	7,62	8,74	9,95	11,23	12,59	14,03	15,54	17,14	18,81	20,55	22,38	24,28															
	Fp	1108	887	739	633	554	493	443	403	369	341	317	296	277	261	246	233	222	211	202	193	185															
	f _p	0,9	1,27	1,71	2,21	2,77	3,39	4,07	4,82	5,63	6,5	7,43	8,42	9,48	10,6	11,78	13,02	14,33	15,7	17,13	18,62	20,17															
40 x 5	Fv	15452	10730	7884	6036	4769	3863	3193	2683	2286	1971	1717	1509	1337	1192	1070	966	876	798	730	671	618															
	f _v	0,97	1,4	1,9	2,49	3,15	3,89	4,7	5,6	6,57	7,62	8,74	9,95	11,23	12,59	14,03	15,54	17,14	18,81	20,55	22,38	24,28															
	Fp	1386	1108	924	792	693	616	554	504	462	426	396	369	346	326	308	292	277	264	252	241	231															
	f _p	0,9	1,27	1,71	2,21	2,77	3,39	4,07	4,82	5,63	6,5	7,43	8,42	9,48	10,6	11,78	13,02	14,33	15,7	17,13	18,62	20,17															
50 x 2	Fv	9657	6707	4927	3772	2981	2414	1995	1677	1429	1232	1073	943	835	745	669	604	547	499	456	419	386															
	f _v	0,78	1,12	1,52	1,99	2,52	3,11																														

Selection of the minimum cross-section of load bearing bar for road transport

Press-welded grating, for load bearing bar pitch a=34.3 mm

Supports spacing [mm]																
	Passenger cars		Forklifts				Small lorries				Heavy Lorries with trailers					
	Q=2.5 [T]		Q=2.5 [T]	Q=3.5 [T]	Q=7.0 [T]	Q=13 [T]	Q=6.0 [T]	Q=9.0 [T]		Q=12 [T]		Q=30 [T]		Q=60 [T]		
	P=0.48/0.624		P=1/1.3	P=1.5/1.95		P=3.25/4.225	P=6/7.8	P=2/2.6	P=3/3.9		P=4/5.2		P=5/6.5		P=10/13	
	A=0.2x0.15		A=0.2x0.2	A=0.2x0.2	A=0.2x0.2	A=0.2x0.2	A=0.2x0.2	A=0.2x0.26		A=0.2x0.3		A=0.2x0.4		A=0.2x0.6		
	R _L	R _B	R _L =R _B	R _L =R _B	R _L =R _B	R _L =R _B	R _L =R _B	R _L	R _B	R _L	R _B	R _L	R _B	R _L	R _B	
300	40x4	40x4	40x4	40x4	50x5	70x5	40x5	50x4	50x4	50x4	50x5	50x4	50x4	60x4	60x4	
400	40x4	40x4	40x4	40x5	60x5		50x5	50x5	60x4	60x5	60x5	60x5	60x5	70x5	70x4	
500	40x4	40x4	40x5	50x5	70x5		60x4	60x5	70x4	70x5	70x5	70x4				
600	40x4	40x4	50x4	60x4			60x5	70x5	70x5			70x5				
700	40x4	40x4	50x5	60x5			70x5									
800	40x5	40x4	50x5	60x5			70x5									
900	40x5	40x5	60x4	70x5												
1000	50x4	40x5	60x5	70x5												
1100	50x4	50x4	60x5													
1200	50x5	50x4	70x4													
1300	60x4	50x5	70x5													
1400	60x4	60x4	70x5													
1500	60x5	60x4	70x5													

IMPORTANT

In order to ensure the freedom of movement, single moving load of 150 daN/m² on 200 x 200 [mm] pressure area at the most unfavourable point of the grating with maximum deflection of 4 mm should be assumed.

EXCERPT FROM AGI

(GERMAN INDUSTRIAL CIVIL ENGINEERING LABOUR SAFETY INSPECTION)

Loads	Types of loads	Assumed load da [N/m ²]	Recommended minimum dimensions of load bearing bars ¹ in [mm]
light	single pedestrians	340 from 340 to 490	30/2 30/2 30/3 ²
average, average/heavy	transport and unloading of lightweight components	from 490 to 980	30/3 40/2
heavy	transport and unloading of heavy components	over 980	40/3

¹⁾ When installing outdoors and in corrosion threat Facilities (chemical industry for example) the load bearing bar thickness should be strengthened by 1 mm.

²⁾ Dimensions recommended to avoid distortions caused by continuous loading.

KEY

Q – total vehicle weight including permitted load [T]

P = a / b

P – load value

a – maximum load value for the most encumbered wheel in the vehicle. [T]

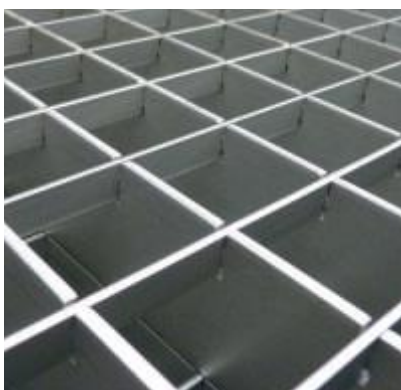
b – "a" - value plus the dynamic coefficient (vibration, braking) [T]

A – area under load „P“ [m x m]

R_L– movement direction along the grating load bearing bar

R_B– movement direction perpendicular to the grating load bearing bar

WE MANUFACTURE STAINLESS STEEL PRESS-WELDED AND PRESSED GRATINGS (1.4301-OH18N9)





Approximate weight of selected press-welded gratings - KOZ

Number of load bearing bars per full mesh width	Mesh size c/c [mm]	KOZ gratings weight [kg/m ²] (framed and zinc coated gratings)															
		Load bearing bar dimensions, height/thickness [mm]															
		20/2	20/3	25/2	25/3	30/2	30/3	40/2	40/3	40/4	40/5	50/4	50/5	60/4	60/5	70/4	70/5
67	15.075x38.1	27	38	33	47	39	55	51	73	95		118		141		164	
67	15.075x50.8	26	37	32	46	38	54	50	72	94		117		140		163	
47	21.63x38.1	20	28	25	34	29	40	37	53	69	85	85	105	101	125	117	146
47	21.63x50.8	19	27	24	33	28	39	36	52	68	84	84	104	100	124	116	145
40	25.5x24.0	20	27	24	32	27	37	34	48	62	76	76	93	90	110	104	128
40	25.5x38.1	18	25	22	30	25	35	32	46	60	73	73	91	87	108	101	125
40	25.5x50.8	17	24	21	29	24	34	31	45	58	72	72	90	86	107	100	124
40	25.5x76.2	16	23	20	28	23	33	31	44	58	71	71	89	85	106	99	123
40	25.5x101.6	16	22	19	28	23	33	30	43	57	71	71	88	85	105	99	123
34	30.15x38.1	16	22	19	26	22	31	28	40	52	64	64	78	75	93	87	108
34	30.15x50.8	15	21	18	25	21	30	27	39	51	62	62	77	74	92	86	107
30	34.3x24.0	17	27	19	26	22	30	28	38	49	59	59	72	70	86	80	99
30	34.3x38.1	15	20	17	24	20	28	26	36	46	57	57	70	67	83	78	97
30	34.3x50.8	14	19	16	23	19	27	25	35	45	56	56	69	66	82	77	95
30	34.3x76.2	13	18	16	22	18	26	24	34	44	55	55	68	65	81	76	95
30	34.3x101.6	12	17	15	21	18	25	23	33	44	54	54	67	65	81	75	94
20	51.0x50.8	11	14	13	17	14	20	18	26	33	41	41	50	49	60	56	69
20	51.0x76.2	10	13	12	16	14	19	18	25	32	40	40	50	48	59	55	69
20	51.0x101.6	9	13	11	16	13	19	17	24	32	39	39	49	47	58	55	68
15	68.6x50.8	9	12	10	14	12	16	15	21	27	33	33	40	39	48	45	55
15	68.6x76.2	8	11	10	13	11	15	14	20	26	32	32	39	38	47	44	54
15	68.6x101.6	7	10	9	13	11	15	14	19	25	31	31	39	37	46	43	53

Table 11

Standard manufacturing programme:

- the lowest cost of purchase
- the shortest time to delivery

To be specified by sales department:

- the minimum amount of the order
- the time to delivery

SERRATED GRATINGS anti-slip type

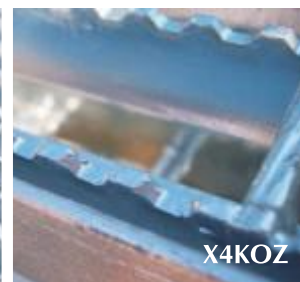
At the Customer's request, we make press-welded and pressed gratings in the SERRATED version. SERRATED gratings characterise with increased coefficient of friction thanks to the cuts in the grating flat bars.

SERRATED gratings are used for platforms located in places that require increased safety measures due to the presence of snow, ice, lubricants or moisture.

They are also recommended for inclined surfaces.

SERRATED gratings are made in different shapes and sizes after previous arrangements with the sales department.

Technical parameters (mesh sizes, dimensions of load bearing bars) are same as in case of gratings with plain load bearing bars. We also make SERRATED gratings of stainless steel.



MARKING

We make two configurations of KOZ SERRATED:

X4 – the cuts in the load bearing bars, trapezoid SERRATED

X3 – the cuts in the load bearing bars, sharp SERRATED

type of grating/mesh size/load bearing bar/grating size/quantity

X4KOZ / 34x38 / 30x2 / L=800xB=1000 / 50 pcs.

We make three configurations of KOP SERRATED:

X5 - the cuts in the load bearing bars

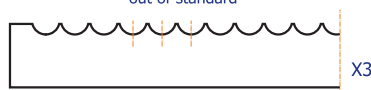
X6 - the cuts in the transverse bars

X7 - the cuts in the load bearing and the transverse bars

type of grating/mesh size/load bearing bar/grating size/quantity

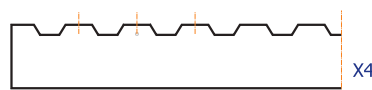
X6KOP / 33x33 / 30x2 / L=1000xB=1200 / 50 pcs.

SERRATED (sharp) – for flat bar thicknesses 2*, 3, 4, 5 [mm]
* out of standard



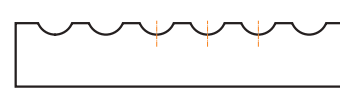
press-welded gratings

SERRATED (trapezoid) – for flat bar thicknesses 2, 3, 4, 5, 6 [mm]



press-welded gratings

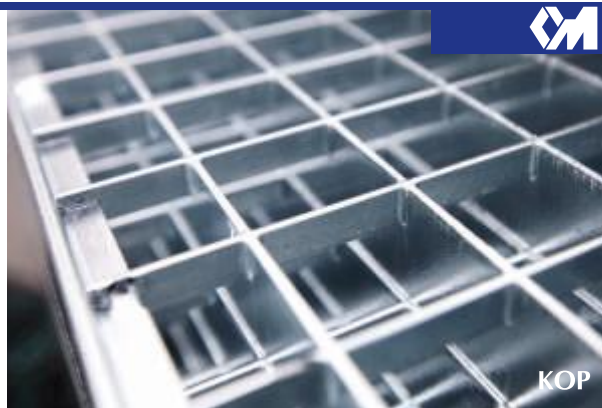
SERRATED – for flat bar thicknesses 2, 3, 4 [mm]



pressed gratings

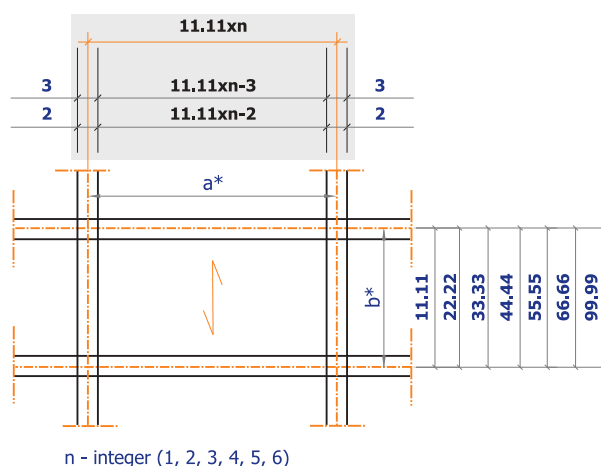
PRESSED GRATINGS according to DIN 24537, ITB or IBDiM Technical Approvals

We manufacture pressed gratings by combining load bearing bars with transverse bars made of flats. The connection process is carried out on state-of-the-art production line. The production process involves pressing the transverse bars into a previously cut load bearing bars under a high pressure (1650 kN). Automatically controlled process of manufacturing of pressed gratings means individual approach to every order (to the Customer's requirements concerning the dimensions of gratings, the sizes of mesh, the layout of gratings for individual platforms

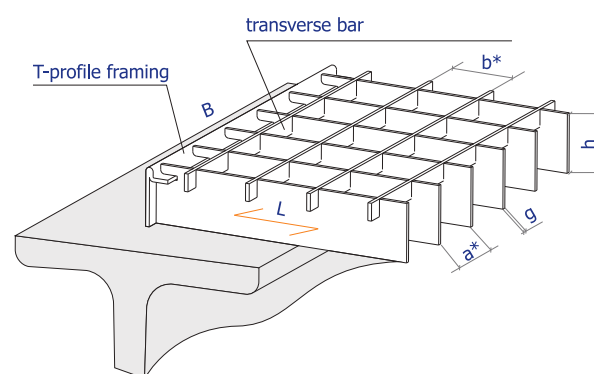


and their fixing method). The production of pressed gratings generates no waste, which significantly reduces the cost of manufacture and, consequently, the final price of such gratings.

MESH SIZES OF PRESSED GRATINGS (manufacturing potential)



We manufacture pressed gratings with minus tolerance of +0/-4 [mm]



Key

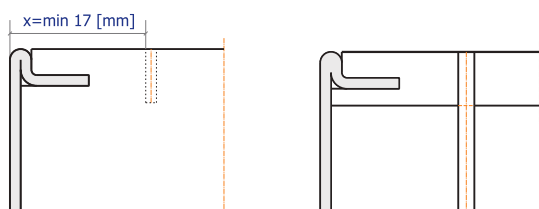
- a - load bearing bar pitch
- b - transverse bar pitch
- * - centre / centre [mm]
- h - load bearing bar height
- g - load bearing bar thickness
- L - overall grating width
- B - overall grating length
- ↔ - bearing bar direction marking

Standard max length of a grating L=2100 mm

Standard max width of a grating B=1700 mm

Other designs of gratings (mesh size, bars, L and B of the grating) are possible after arrangements with the sales department.

T-PROFILE STANDARD FRAMING



In case of pressed gratings with load bearing bar thickness $g=4$ mm, framing is made of flat bars of the same height as the load bearing bar; also equipped with other types of framing: kick plates, perforated (anti-slip) borders or other profiles.

Types of load bearing bars

h	mm	20	25	30	35	40	50	20	25	30	35	40	50	20	25	30	35	40	50
g		2						3						4					

Types of transverse bars

h	mm	8	9
g		2	

MARKING

KOP – Framed pressed gratings
 KNP – Non-framed pressed gratings
 type of grating/mesh size/load bearing bar/grating size/quantity
 KOP / 33x33 / 30x2 / L=1000xB=1200 / 50 pcs.

Table of loads of pressed gratings for pitch a=33.3 mm

load bearing bar		Supports spacing c/c [mm]																	
		500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200
20 x 2	Fv	1839	1277	938	718	568	460												
	f _v	0.20	0.29	0.39	0.51	0.64	0.79												
	Fp	179	143	119	102	89	79												
	f _p	0.20	0.27	0.36	0.46	0.58	0.70												
25 x 2	Fv	2876	1997	1467	1123	887	719	594	500	426									
	f _v	0.16	0.23	0.31	0.41	0.51	0.63	0.77	0.91	1.07									
	Fp	277	222	185	158	139	123	111	101	92									
	f _p	0.16	0.22	0.29	0.37	0.46	0.56	0.67	0.80	0.93									
30 x 2	Fv	4147	2880	2116	1620	1280	1037	857	720	614	529	461	405						
	f _v	0.13	0.19	0.26	0.34	0.43	0.53	0.64	0.76	0.89	1.04	1.19	1.35						
	Fp	396	317	264	226	198	176	158	144	132	122	113	105						
	f _p	0.13	0.18	0.24	0.31	0.39	0.47	0.56	0.66	0.77	0.89	1.02	1.16						
35 x 2	Fv	5670	3940	2890	2210	1710	1420	1170	980	840	720	630	550	490	440	390			
	f _v	0.10	0.14	0.20	0.26	0.32	0.40	0.48	0.58	0.68	0.78	0.90	1.02	1.16	1.30	1.44			
	Fp	470	370	310	270	230	210	190	170	150	140	130	120						
	f _p	0.11	0.16	0.22	0.29	0.37	0.46	0.55	0.66	0.77	0.90	1.03	1.17						
40 x 2	Fv	7368	5117	3759	2878	2274	1842	1523	1279	1090	940	819	720	637	569	510	461		
	f _v	0.10	0.14	0.19	0.25	0.32	0.40	0.48	0.57	0.67	0.78	0.89	1.02	1.15	1.28	1.43	1.59		
	Fp	691	553	461	395	345	307	276	251	230	213	197	184	173	163	153	145		
	f _p	0.10	0.14	0.18	0.23	0.29	0.35	0.42	0.50	0.58	0.67	0.76	0.87	0.97	1.09	1.21	1.34		
25 x 3	Fv	4313	2995	2201	1685	1328	1078	891	749	638	550	497	421						
	f _v	0.16	0.23	0.31	0.41	0.51	0.63	0.77	0.91	1.07	1.24	1.43	1.62						
	Fp	416	332	277	237	208	185	166	151	139	128	119	111						
	f _p	0.16	0.22	0.29	0.37	0.46	0.56	0.67	0.80	0.93	1.07	1.22	1.38						
30 x 3	Fv	6221	4320	3174	2430	1920	1555	1285	1080	920	794	691	608	538	480				
	f _v	0.13	0.19	0.26	0.34	0.43	0.53	0.64	0.76	0.89	1.04	1.19	1.35	1.53	1.71				
	Fp	594	475	396	340	297	264	238	216	198	183	170	158	149	140				
	f _p	0.13	0.18	0.24	0.31	0.39	0.47	0.56	0.66	0.77	0.89	1.02	1.16	1.30	1.45				
35 x 3	Fv	8500	5880	4340	3220	2620	2120	1750	1470	1250	1080	940	880						
	f _v	0.10	0.14	0.20	0.26	0.32	0.40	0.48	0.58	0.68	0.78	0.90	1.02						
	Fp	700	560	470	400	350	310	280	250	230	210	200	190						
	f _p	0.11	0.16	0.22	0.29	0.37	0.46	0.55	0.66	0.77	0.90	1.03	1.17						
40 x 3	Fv	11059	7680	5642	4320	3414	2765	2285	1920	1636	1410	1229	1080	957	853	766	691	627	
	f _v	0.10	0.14	0.19	0.25	0.32	0.40	0.48	0.57	0.67	0.78	0.89	1.02	1.15	1.29	1.43	1.59	1.75	
	Fp	1037	829	691	592	518	461	415	377	346	319	296	276	259	244	230	218	207	
	f _p	0.10	0.14	0.18	0.23	0.29	0.35	0.42	0.50	0.58	0.67	0.77	0.87	0.97	1.09	1.21	1.34	1.47	
50 x 3	Fv	17280	12000	8816	6750	5333	4320	3570	3000	2556	2204	1920	1688	1495	1333	1197	1080	979	893
	f _v	0.08	0.11	0.16	0.20	0.26	0.32	0.38	0.46	0.54	0.62	0.71	0.81	0.92	1.03	1.15	1.27	1.40	1.54
	Fp	1589	1272	1060	908	795	706	636	578	530	489	454	424	397	374	353	335	318	303
	f _p	0.08	0.11	0.15	0.19	0.23	0.28	0.34	0.40	0.46	0.54	0.61	0.69	0.78	0.87	0.97	1.07	1.18	1.29

Table 12

KEY for table 12 (1daN≈1KG)

Fv - continuous load value [daN/m²]

f_v - deflection [cm] under load Fv

Fp - concentrated load on 200x200 [mm] area

f_p - deflection [cm] under load Fp

- Permitted tension for steel: **1600** daN/cm²
- Safety factor to the yield point: **1,5**
- Safety factor to the tensile stress limit: **2,35**
- Grating support = grating height (not less than 30 mm)

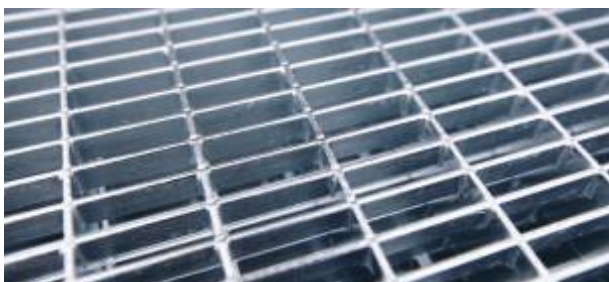
■ The range recommended by the manufacturer.

Within this range, the elastic deflection does not exceed 1/200 of the support spacing and it is less than 4 mm at 150 daN single moving load on 200 x 200 [mm] pressure area at any point of the grating.

■ Within this range, the grating can accommodate 150 daN moving load at any point with maximum deflection of 1/200 of the support spacing.

■ Within this range, the maximum deflection at 500 daN/m² continuous load is 4 mm

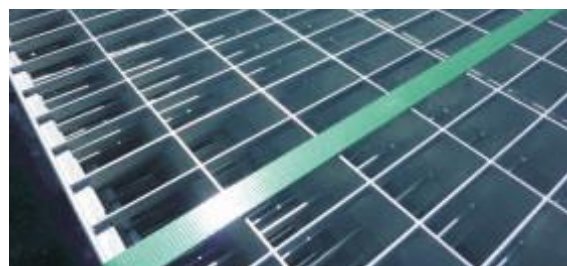
■ Within this range, the maximum deflection at 500 daN/m² continuous load is 1/200 of the support spacing.



Conversion table for pressed gratings loads

Load bearing bar [mm]	Load bearing bar pitch [mm]	Number of load bearing bars per 1 metre of grating width	Coefficient w
20x2 - 50x3	11.11	91	2.93
20x2 - 50x3	22.22	46	1.48
20x2 - 50x3	33.33	31	1
20x2 - 50x3	44.44	23	0.74
20x2 - 50x3	55.55	19	0.61
20x2 - 50x3	66.66	16	0.52

The Table 12 for pressed gratings has been prepared for 33.33 mm load bearing bar pitch. In order to calculate the loads for pressed gratings with other load bearing bar pitches, use the above table.



Exemplary load calculations for pressed gratings with other pitches than 33.33 mm.

The continuous load value is $F_v = 2430 \text{ daN/m}^2$ (see table 12) for pressed gratings KOP/33x33/30x3/L=800xB=1000.

F_v^* - load for 11.11 mm load bearing bars pitch
 F_v^{**} - load for 66.66 mm load bearing bars pitch
 F_v - load for 33.33 mm load bearing bars pitch
 w - coefficient from the conversion table for 11.11 mm pitch

Example 1

If we want to calculate the continuous load value F_v^* for pressed grating with 11.11 mm load bearing bar pitch KOP/11x33/30x3/L=800xB=1000 formula reads as follows:

$$F_v^* = F_v \times w = 2430 \times 2.93 = 7120 \text{ daN/m}^2$$

Example 2

If we want to calculate the continuous load value F_v^{**} for pressed grating with 66.66 mm load bearing bar pitch KOP/66x22/30x2/L=800xB=1000 formula reads as follows:

$$F_v^{**} = F_v \times w = 1800 \times 0.52 = 936 \text{ daN/m}^2$$

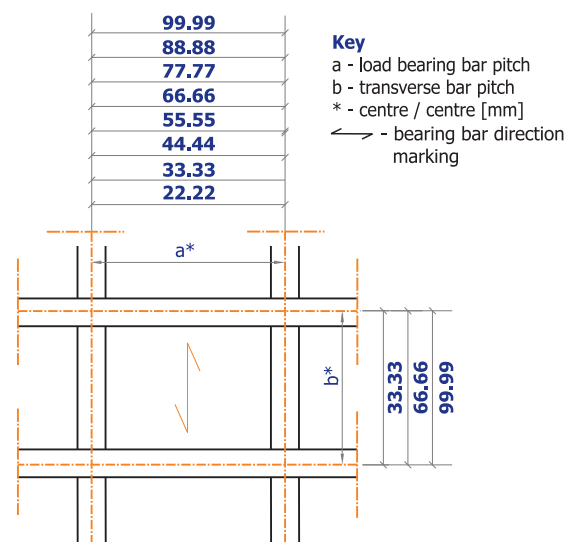
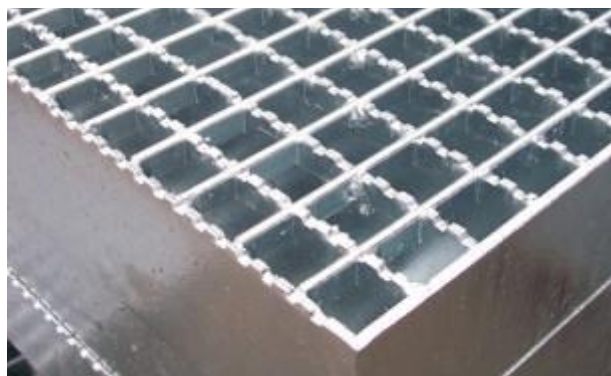
HEAVY DUTY PRESSED GRATINGS

We manufacture heavy duty pressed gratings adapted to sustain large loads.

Framing - as a standard, made of flat bars of the same height as the gratings load bearing bar.

Other designs of heavy duty pressed gratings

(kick plates; non-standard sizes of load bearing bars, transverse bars and mesh; anti-slip borders, SERRATED anti slip version, etc.) are possible after agreement with sales department.



The type of the transverse bars depends on the type of the load bearing bar used

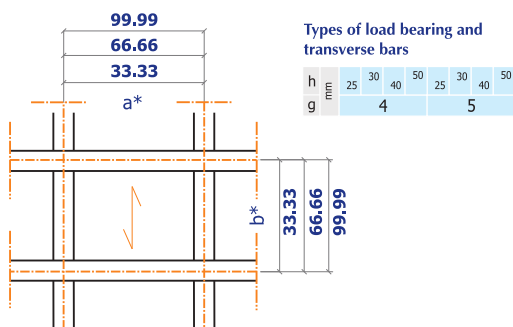
transverse bar			12x4				14x4				20x5		25x5	
Load bearing bar	h	mm	25	30	40	50	60	70	80	90	100	110	120	
	g		5											



FULL PRESSED GRATINGS (KPK)

We manufacture full pressed gratings, in case of which transverse bars and load bearing bars are of the same height and thickness – so-called full pressing. Each of the flat bars of the KPK full pressed grating is cut to half of its height – load bearing bars are cut on top and transverse bars on the bottom.

Framing - as a standard, made of flat bars of the same height as the gratings load bearing bar.



IMPORTANT

KPK full pressed gratings can accommodate loads of variable directions. It is recommended to appose load along the load bearing bar of KPK grating (the one with the cut on the top).

Other capabilities of full pressed and louvered gratings (kick plates, non standard sizes of load bearing bars, transverse bars and mesh, anti-slip borders, SERRATED anti-slip version, etc.) are possible after agreement with the sales department.

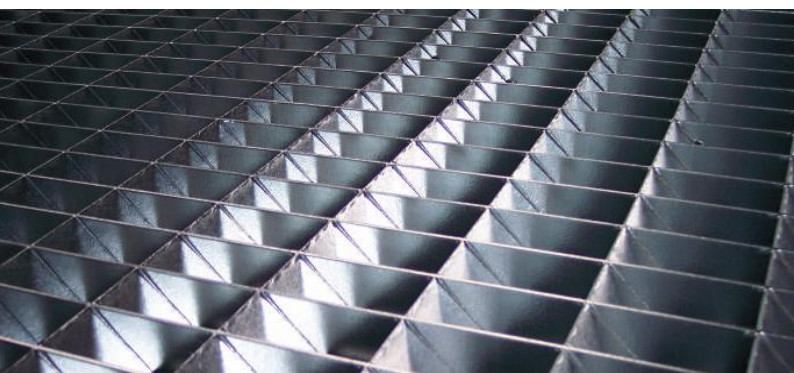
LOUVERED GRATINGS

We manufacture louvered gratings, similar way as full pressed gratings, however in their case height of transverse bar is usually bigger than load bearing ones. The louvered gratings may perform the function of a sun shield, noise screen or vent cover. It is possible to choose configuration that allows to fully blind mesh opening with tilted transverse bar.

Framing - as a standard, made of flat bars of the same height as the gratings load bearing bar.

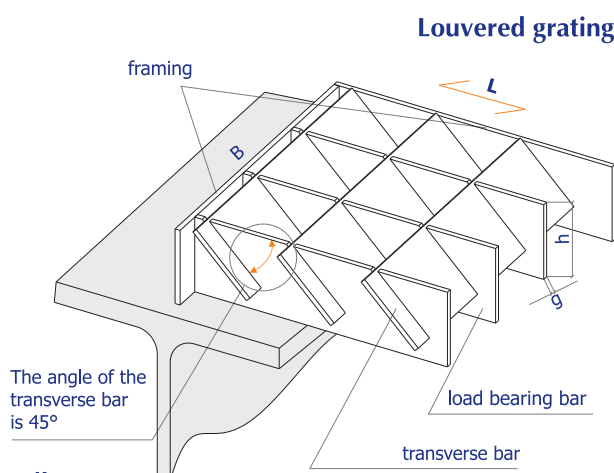
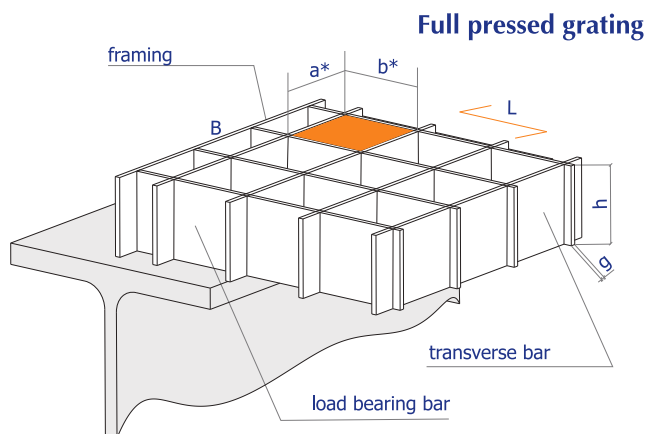
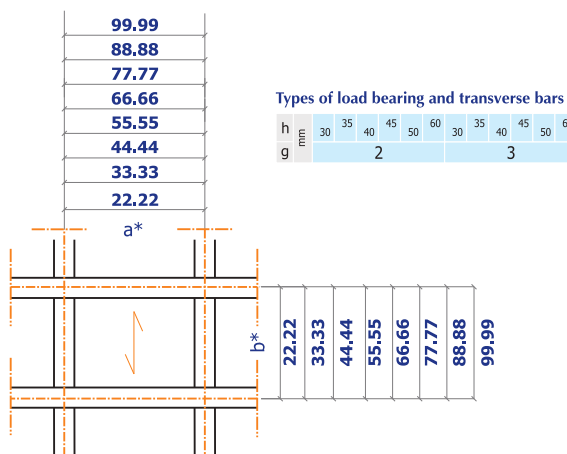
Recommended dimensions of louvered gratings

length L	max = 1500 [mm]
width B	max = 1500 [mm]



Recommended dimensions of full pressed gratings

length L	300-1500 [mm]
width B	300-1500 [mm]



Key

- a - load bearing bar pitch
- b - transverse bar pitch
- * - centre / centre [mm]
- h - load bearing bar height
- g - load bearing bar thickness
- L - overall grating length
- B - overall grating width
- ↔ - bearing bar direction marking

Types of load bearing and transverse bars

h mm	20	25	35	30	40
g	2				

SPECIAL SAFE MESH GRATINGS

We also manufacture press-welded gratings with additional infill at the bottom of transverse bar. Special safe mesh gratings are made only in full mesh width and only for load bearing bar pitch 34,3 mm.

Framing - as a standard, made of flat bars of the same height as the gratings load bearing bar.



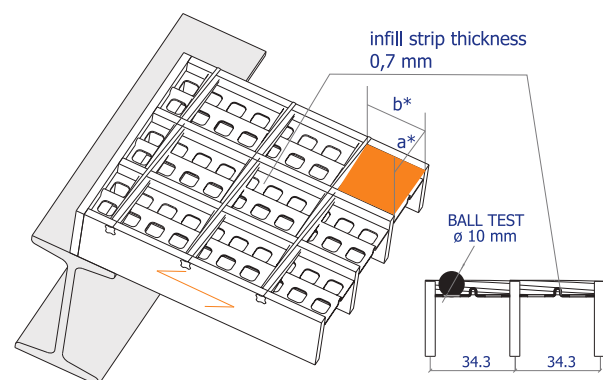
"SECURITY MESH" GRATINGS

We manufacture press-welded gratings with additional 8x8 mm perforation strip welded at the bottom of transverse bar. This type of grating meets all the requirements of Spanish safety regulations.

IMPORTANT

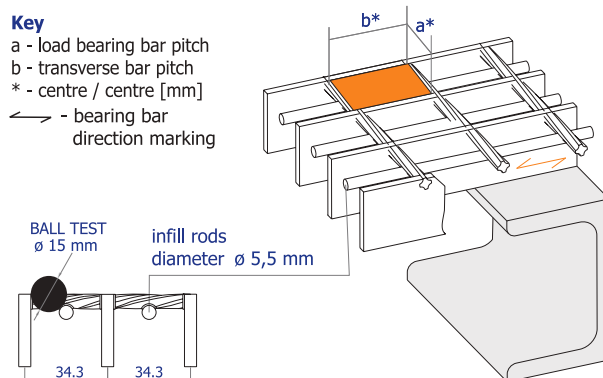
The design of "security mesh" gratings prevents items with the diameter of 10 mm from passing through the mesh of the grating.

Recommended mesh sizes	34.3x38.1; 34.3x50.8 [mm]
Load bearing bar	from 25x2 to 40x4 [mm]



Key

a - load bearing bar pitch
b - transverse bar pitch
* - centre / centre [mm]
← - bearing bar direction marking



"OFFSHORE" GRATINGS

We manufacture press-welded gratings with additional plain rods welded at bottom of transverse bar.

IMPORTANT

The design of "offshore gratings" prevents items with the diameter of 15 mm from passing through the mesh of the grating.

Recommended mesh sizes	34.3x76.2; 34.3x101.6 [mm]
Load bearing bar	from 25x2 to 40x4 [mm]

Other designs of offshore gratings (kick plates; non-standard sizes of load bearing bars, transverse bars and mesh; anti-slip borders, SERRATED anti slip version, etc.) are possible after agreement with sales department.

MATERIAL AND COATING

As a standard, the platform gratings are made by Polimex-Mostostal S.A. of:

- S235JR class steel according to PN-EN 10025 or its equivalents;
- 1.4301-OH18N9 stainless steel according to the Polish Standards.

It is possible to make platform gratings of S355J0 grade steel according to PN-EN 10025 or No. 1.4404-OH17N14M2 steel according to the Polish Standards. The usage of other materials than the ones specified above must be previously agreed with the sales department. As a standard, all products are hot-dip zinc coated according to EN ISO 1461, DIN 50976, which provides durable protection against aggressive environments.

The process of hot-dip zinc coating is carried out at our own galvanising shop. We also offer additional effective finish of surfaces through powder coating (RAL colours). We may also deliver "black" untreated products.





STAIRWAY SYSTEMS AND STAIR TREADS

Polimex-Mostostal S.A. has specialised in the manufacture of steel stairway structures with communication routes made of platform gratings. We make both indoor and outdoor hot-dip zinc coated stairs adapted to different loads.

We manufacture different types of stairs.

SPIRAL STAIRS: stairs with sleeve mounting and bolt mounting [sleeve-less] stair treads, monolithic stairs.

STRAIGHT STAIRS: straight one-flight stairs, straight multi-flight stairs and adjustable height stairs.

STRAIGHT ADJUSTABLE HEIGHT STAIRS according to EN-ISO 14122

We manufacture adjustable height stairs (variable adjustment of β angle) allowing to adjust the height of stairs H [mm] to the Customer's individual needs. The adjustment of the angle of inclination of such stairs is obtained through loosening the bolts at swivels and the adjustment of the entire structure to given exit level, and finally anchoring it to the level's ledge. The treads of the stairs remain horizontally levelled after each adjustment of the stairs height. The stair treads are made of platform gratings. Typically, we manufacture stairs with the following widths of flights: 800,1000,1200[mm].

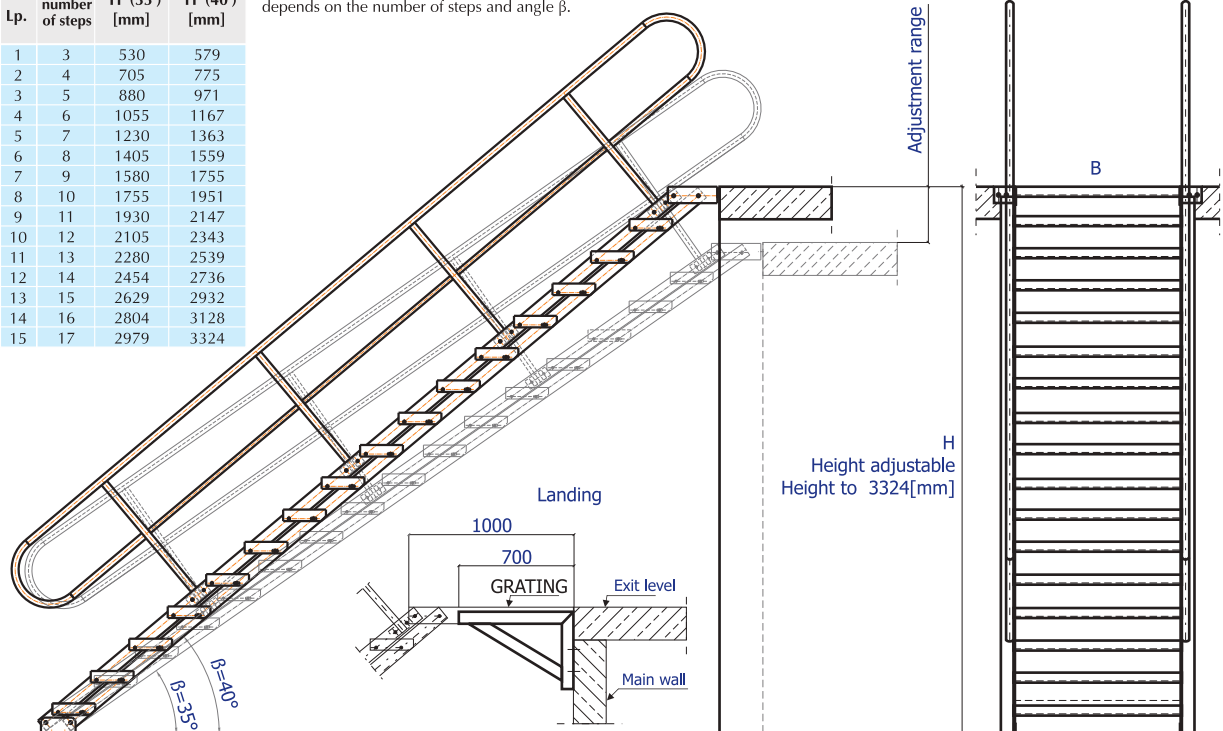


The stairs with the angle adjustment meet the requirements of the civil engineering regulations concerning the geometry of stair treads. Additionally, we offer interconnecting platforms performing the functions of landings. The stairs are complemented with railings made of 42.4x3.2 [mm] pipes on both sides. Adjustable height stairs are universal, lightweight and easy to assemble. Adjustable height stairs are the perfect solution for warehouses, garage pits, cellars, attics, and multiple other applications depending on the Customer's needs.

STRAIGHT ADJUSTABLE HEIGHT STAIRS

Lp.	number of steps	"H"(35°) [mm]	"H"(40°) [mm]
1	3	530	579
2	4	705	775
3	5	880	971
4	6	1055	1167
5	7	1230	1363
6	8	1405	1559
7	9	1580	1755
8	10	1755	1951
9	11	1930	2147
10	12	2105	2343
11	13	2280	2539
12	14	2454	2736
13	15	2629	2932
14	16	2804	3128
15	17	2979	3324

The height "H" of stairs depends on the number of steps and angle β .



SPIRAL STAIRS according to PN/M-49060 (EN-ISO 14122, DIN 18065)

We make spiral stairs according to our own static calculations and design, which each time is adapted to the Customer's needs.

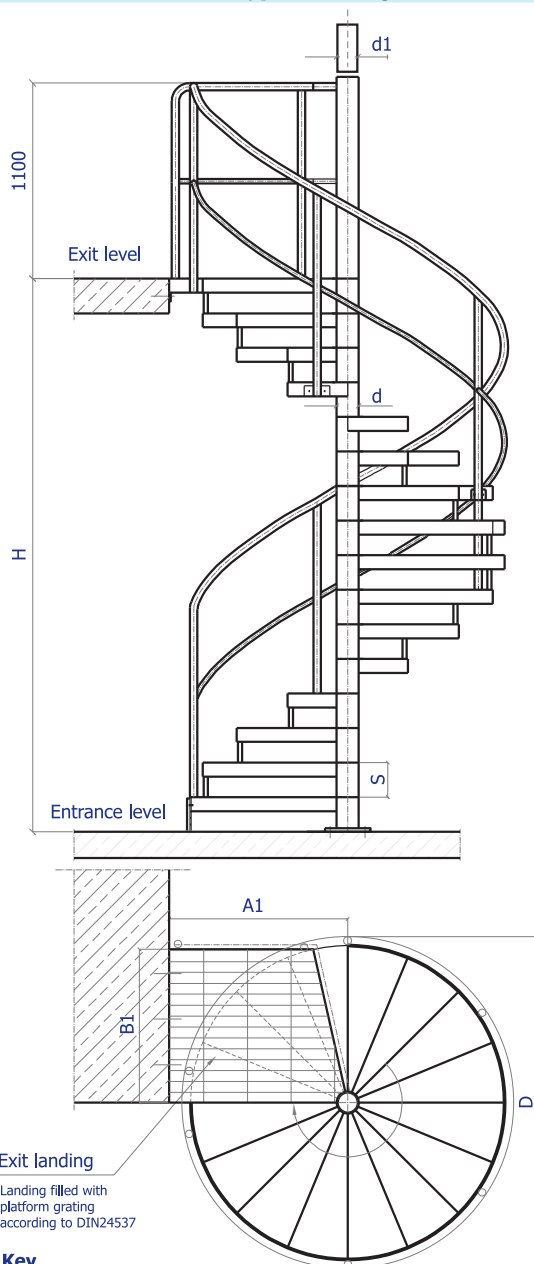
As a standard, spiral stairs are offered in hot-dip zinc coated version. At the Customer's request, we also offer spiral stairs coated with special paint. We manufacture spiral stairs as complete sets including: structural pipe, stair treads, landings, railings and fixing elements.

IT IS POSSIBLE TO MAKE SPIRAL STAIRS ACCORDING TO THE CUSTOMER'S DESIGN.

Spiral stairs by Polimex-Mostostal S.A. characterise with:

- small occupied area comparing to straight stairs;
- small weight in relation to the height of stairs;
- easy installation and disassembly;
- possibility of angle adjustment to the existing component through turning of all stair treads on the structural pipe;
- low price comparing to traditional stairs.

SPIRAL STAIRS - sleeve mounting treads with type 1 railing



Exit landing

Landing filled with platform grating according to DIN24537

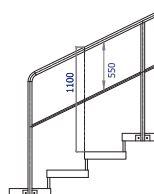
Key

D - diameter of spiral stairs with the railing
d - sleeve diameter
d1 - structural pipe diameter
H - floor height
S - step height
A1, B1 - landing dimensions

Standard types of railings

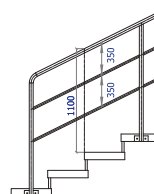
railing type 1

handrail + support posts
(pipe $\varnothing 42.4 \times 3.2$ [mm])
intermediate pipe (x1)
(pipe $\varnothing 26.9 \times 2.6$ [mm])



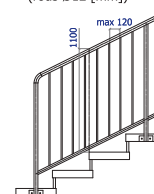
railing type 2

handrail + support posts
(pipe $\varnothing 42.4 \times 3.2$ [mm])
intermediate pipe (x2)
(pipe $\varnothing 26.9 \times 2.6$ [mm])



railing type 3

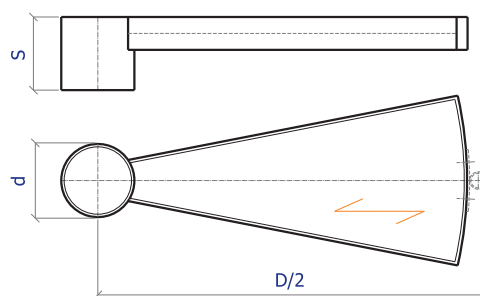
handrail + support posts
(pipe $\varnothing 42.4 \times 3.2$ [mm])
intermediate pipe (x1)
(pipe $\varnothing 26.9 \times 2.6$ [mm])
vertical balusters
(rods $\varnothing 12$ [mm])



We make other type of railings according to the Customer's projects.

SPIRAL STAIR TREADS

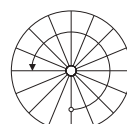
Stair treads filled with press-welded or pressed gratings in regular and SERRATED (anti-slip) versions.



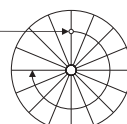
← - bearing bar direction marking

FEATURES OF SPIRAL STAIRS

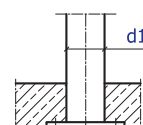
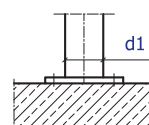
Anchoring of the structural pipe (pillar)



Left-turn



Right-turn





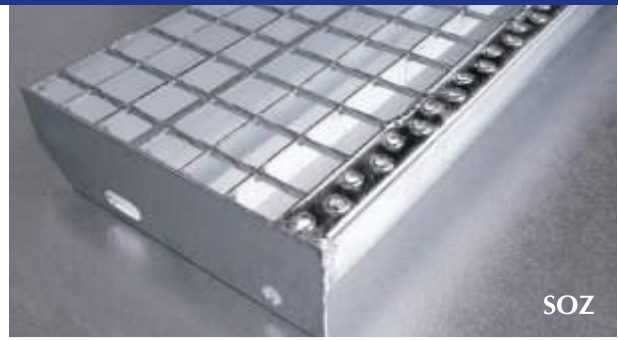
STAIR TREADS according to DIN24531

We make standard stair treads of press-welded and pressed gratings. Each stair tread offered by us as a standard has a special anti-slip nosing and side-plates with assembly holes.

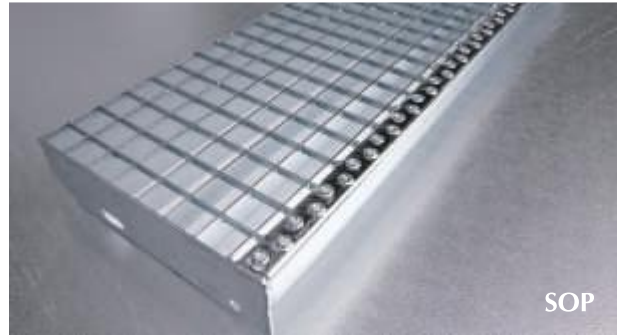
Additionally, the safety nosing makes the stair tread more rigid at the place exposed to the highest loads. As a standard, stair treads are offered in hot-dip zinc coated version.

PXM stair treads form a combination of lightweight design with durability.

We also make stair treads of SERRATED (anti-slip) gratings.

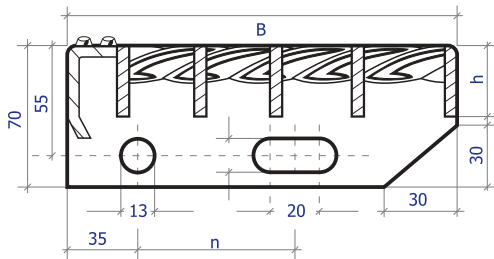


SOZ



SOP

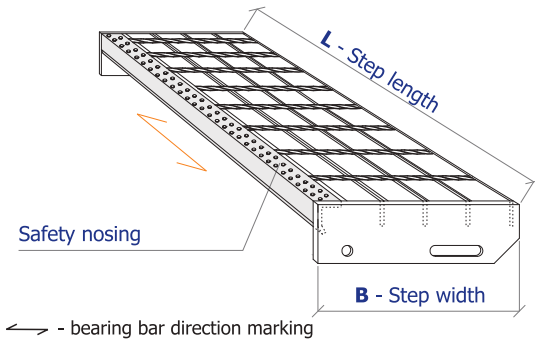
STANDARD SIDE-PLATES



n - distance between holes c/c [mm]
n = 120, 150, 180 [mm] or others, after consultations with the sales department
h - load bearing bar height

Dimensions given in [mm]
Side-plate thickness: 3 mm

STANDARD STAIR TREAD DESIGN



Standard stair treads dimensions

L	B	h	n
	240		120
	260		150
600	270		150
	295		180
	305		180
	240		120
	260		150
800	270		150
	295		180
	305		180
	240		120
	260		150
1000	270		150
	295		180
	305		180
	240		120
	260		150
1200	270		150
	295		180
	305		180

Load bearing bar height

After the submission of the side-plates drawing, we also make stair treads with other lengths and widths than the ones specified in the table.



We offer the following stair treads fixing components:

- screw M12x35
DIN 558 (E05)
- washers d14
DIN 126 (E13)
- nuts M12
DIN 555 (E17)

MARKING

SOZ – press-welded stair treads

SOP – pressed stair treads

X3SOZ, X4SOZ, X5SOP, X6SOP, X7SOP:

stair treads of SERRATED version

type of step/mesh size/load bearing bar/stair treads size/quantity

SOZ / 34x38 / 30x2 / L=800xB=260 / 50pcs.

PLATFORM GRATING FASTENERS

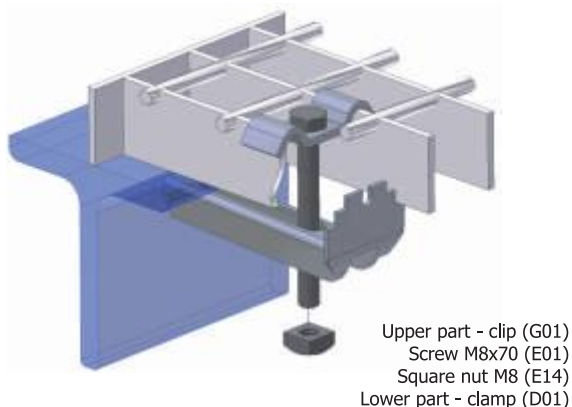
We also offer to our Customers gratings fixing components ensuring fast and safe installation of platform gratings according to their designation. All grating fasteners are protected against corrosion.

We also offer stainless steel fasteners.

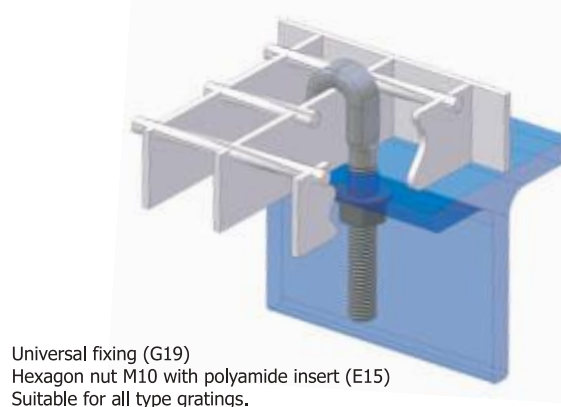
IMPORTANT

The number and the types of fasteners necessary to fit a single grating are specified by the designer.

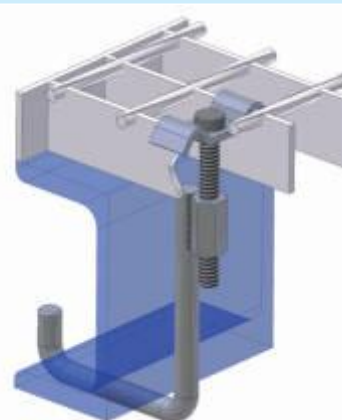
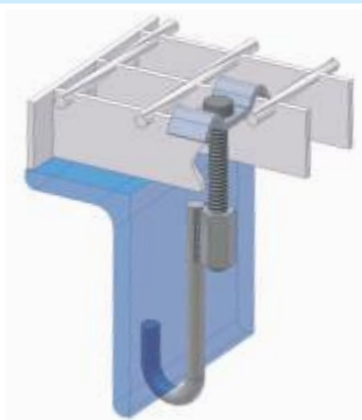
STANDARD FASTENER



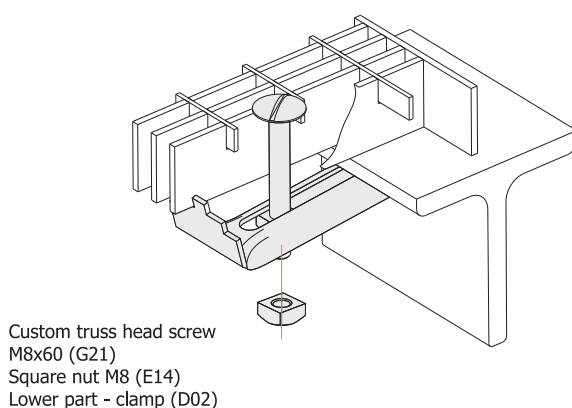
UNIVERSAL FASTENER



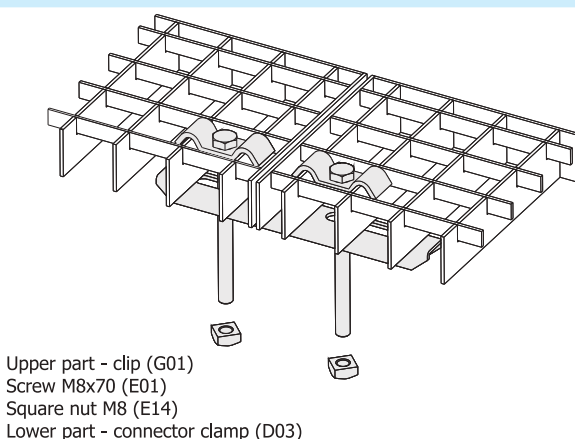
HOOK FASTENERS



STANDARD FASTENER FOR GRATINGS PITCH 11 MM

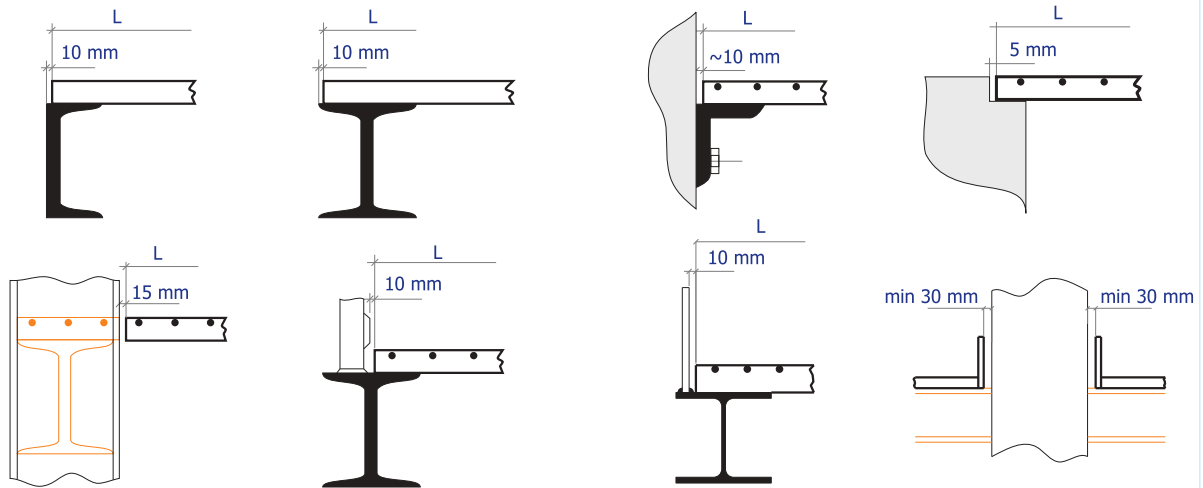


CONNECTING FASTENER



The full offer of platform grating fixing components is available in the separate "Platform Gratings Fasteners" catalogue.

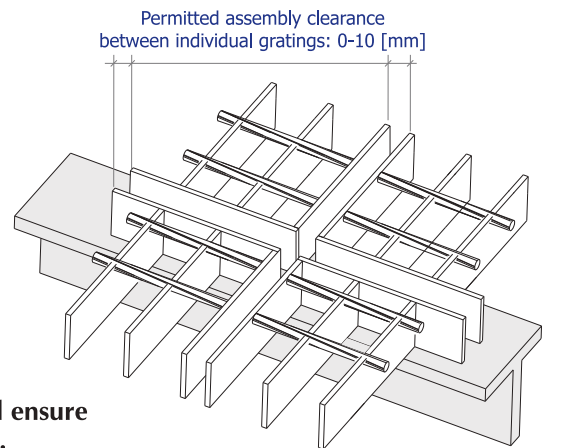
METHODS OF INSTALLATION OF GRATINGS RECOMMENDED BY THE MANUFACTURER



When designing and assembling gratings, special attention must be paid to the distances to be maintained, e.g.: from the edges of the profiles, from pillars going through the landings, from pipes, walls, or other housing.

IMPORTANT

The distance between individual gratings that must be assumed at the design stage should be zero. It is necessary to remember that PXM platform gratings are made with minus standard tolerance $+0/-4$ [mm].



Maintaining of the distances shown on the drawings will ensure proper designing and assembling of gratings on landings.



STOCK GRATINGS AND STAIR TREADS

We also offer to our Customers the sales of standard products, such as press-welded and pressed gratings and stair treads ex-stock.

The availability of individual items must be each time consulted with a sales department.

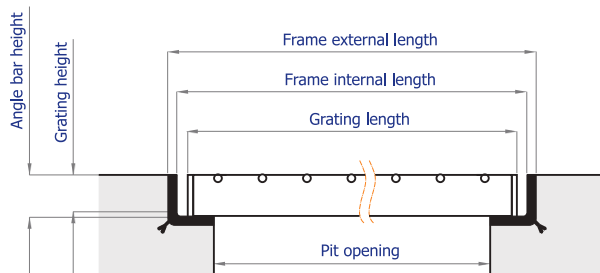
SOZ press-welded stair treads

Mesh [mm]	L x B [mm]	Load bearing bar [mm]
SOZ / 34.3 x 38.1	800 x 240	25 x 2
	800 x 270	30 x 2
	1000 x 240	30 x 3
	1000 x 270	

KOZ press-welded gratings

Mesh [mm]	L x B [mm]	Load bearing bar [mm]
KOZ / 34.3 x 38.1	500 x 1000	25 x 2
	600 x 1000	30 x 2
	700 x 1000	30 x 3
	800 x 1000	
	900 x 1000	
	1000 x 1000	
	1100 x 1000	
	1200 x 1000	

GRATINGS + ANGLE FRAME



ENGINEERING AND TECHNOLOGICAL OFFICE

We provide comprehensive technical support during the manufacturing process.

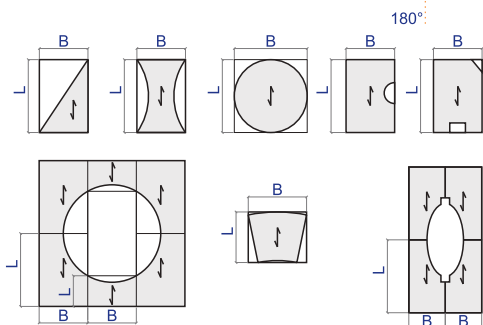
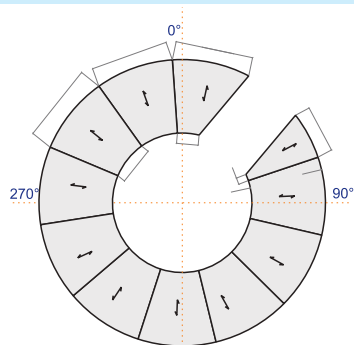
We prepare:

- our own gratings layout plans,
- gratings layout plans based on received technical documentation,
- technical designs of straight and spiral stairs.

We offer technical advice in scope of selection of optimum gratings concerning their application, required loads and costs.

GRATINGS AND STAIR TREADS SPECIAL DESIGN

Thanks to the usage of state-of-the-art and computer operated equipment, we are able to manufacture all types of gratings with non-typical shapes, cut-outs and openings, depending on the requirements of the design. Individual orders must be each time consulted with the sales department.



← - load bearing bar direction marking
 ■ - gratings area

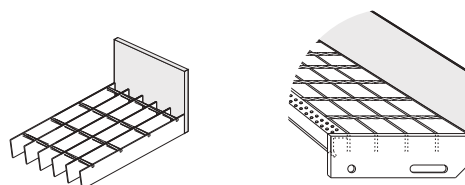
Selection of frames - examples

Load bearing bar [mm]	Cold rolled angle bar [mm]
20x2	22x22x2
25x2	27x25x2
30x2	32x25x2
40x2	42x32x2

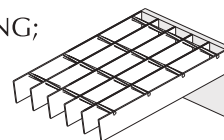
TAILOR MADE FRAMING

At the Customer's request, we make:

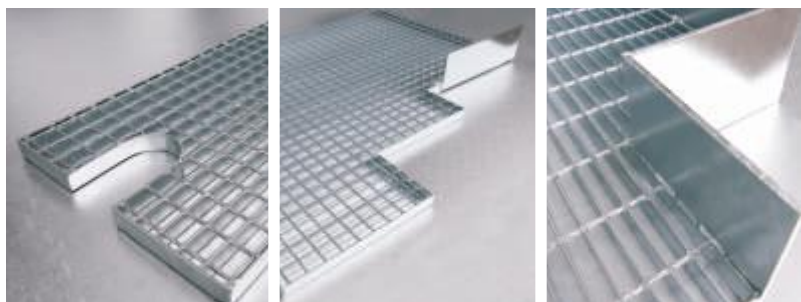
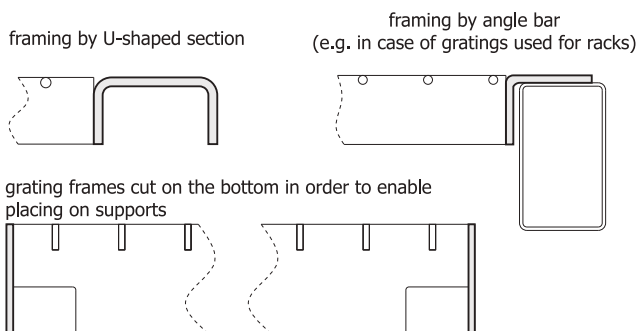
- platform gratings with high framing (kick plate);
 Note that according to Polish regulations, the required height of kick plates is 150 mm above the grating level, while other European regulations require 100 mm kick plate only.
- stair treads with kick plates welded to their back edges;
 Such stair treads are usually used as the first step of the flight protecting items from falling down.



- GRATINGS WITH LOW FRAMING;
 used when a customised grating height is required or for gratings serving as warehouse racks.

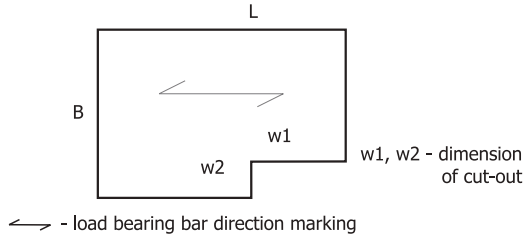


- OTHER FRAMINGS, e.g:



HOW TO ORDER GRATINGS AND STEPS?

We offer gratings in all possible shapes (e.g. cut-outs), according to the customer's requirements. We make such gratings upon order after receiving relevant drawing, e.g.



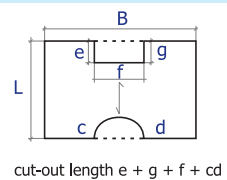
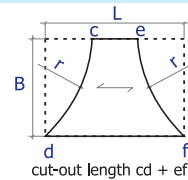
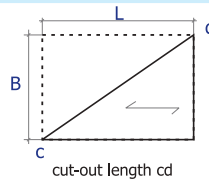
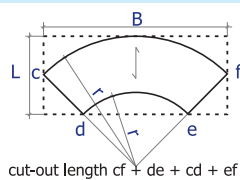
IMPORTANT

The total value of an order is established by the sales department based on:

- the type of gratings,
- the number of square metres of gratings,
- the metres of cuts in gratings,
- additional processing of gratings (kick plates, SERRATED anti-slip versions, etc.).



METHOD OF CALCULATION OF THE GRATING AREA AND THE LENGTH OF CUT-OUTS



invoiced area $L \times B$

IN ORDER TO ENSURE PROPER ORDERING OF PLATFORM GRATINGS, PLEASE USE THE FOLLOWING MARKINGS

PRESS-WELDED GRATINGS

KOZ - framed press-welded gratings
KNZ - non-framed press-welded gratings
SOZ - press-welded stair treads
X3KOZ / X3SOZ - SERRATED gratings/stair treads (sharp shape serration on load bearing bar)
X4KOZ / X4SOZ - SERRATED gratings/stair treads (trapezoid shape serration on load bearing bar)

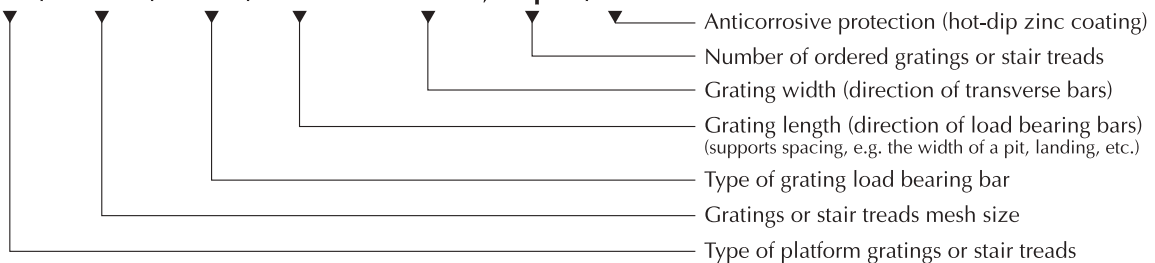
PRESSED GRATINGS

KOP - framed pressed gratings
KNP - non-framed pressed gratings
SOP - pressed stair treads
X5KOP / X5SOP - SERRATED gratings/stair treads (serration on load bearing bar)
X6KOP / X6SOP - SERRATED gratings/stair treads (serration on transverse bar)
X7KOP / X7SOP - SERRATED gratings/stair treads (serration on load bearing bar and transverse bar)

EXAMPLE OF AN ORDER FOR STAIR TREADS AND GRATINGS

KOZ / 34 x 38 / 30 x 3 / L = 950 x B = 1000, 50 pcs. / OC

SOZ / 34 x 38 / 30 x 3 / L = 800 x B = 270, 20 pcs. / OC



IMPORTANT (if applicable)

Orders should include the following notes:

- hot-dip zinc coated or "black" (untreated) gratings
- grating with cut-outs (drawing with cut-outs dimensions and positions required)

- grating with kick plate (drawings with kick plate dimensions and positions required)
- stainless steel grating
- other requirements

Certificates



2002 medal for platform gratings



ITB Technical Approval
No. AT 1539372011



IBDIM Technical Approval
No. AT/2010-02-0111



Product Type
Approval Certificate
No. DP/253/894624/07



ISO 9001:2008
ISO 1400:2004
PN-N-18001:2004

Polimex-Mostostal S.A. holds all necessary authorisation and certificates issued by Polish and foreign institutes. The gratings are made from certified materials and contrary to other grating production technologies, our technology gives top quality products that are safe to use.

The natural environment is extremely important to us, and therefore our products are designed to enable their recycling. Our focus on recycling of our products proves our commitment to the issue of the environment protection.



Polimex-Mostostal S.A.

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- Production
- Representative Office



