

# MEISEGrate®

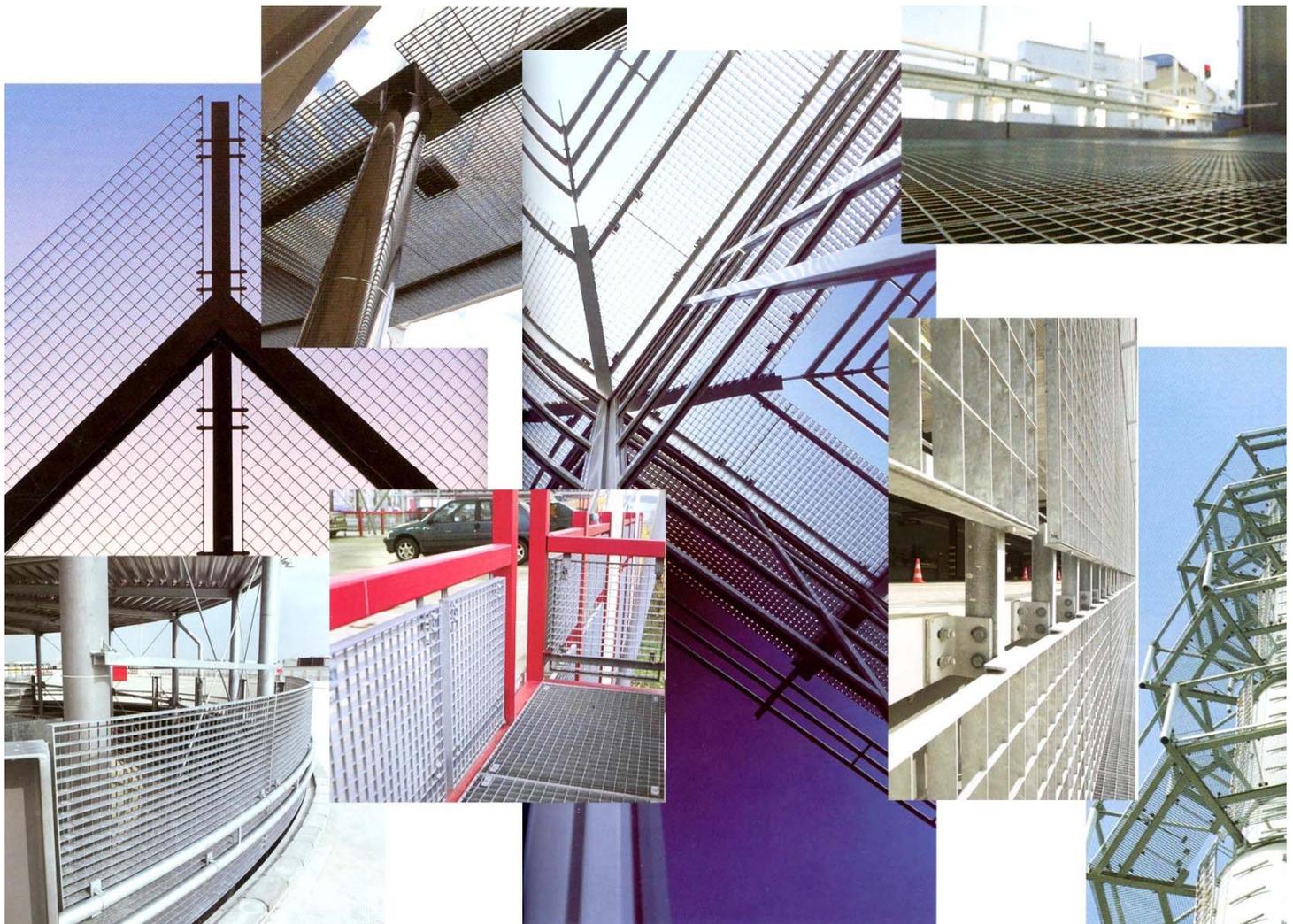


Advanced in technology with experience longer than 2 decades in grating industry, delivery thousands of solutions to fulfill various applications to clients and specifications of projects, MeiseGrate nowadays are being manufactured in variety of standardized grating for different applications and tailored ones to cater for the nature of projects.

MeiseGrate is versatile not only limited to application for walkway, platform and drainage cover but also for security barricades, ventilation grilles, sunshield, the function of gangway to avoid from being peered from beneath, etc. that are diversified in various materials and finishes to accomplish conditions of environment.

According to the production technique, MeiseGrate Gratings are categorized into Press Welded Gratings, Press Locked Gratings, Louvre Gratings, Finned Gratings, Anti-skid Gratings, etc. in common materials, such as Steel, Stainless steel, aluminum, and finishes like powder coating, pickling, electro-polishing, etc. to be applied correspondingly to the nature of materials in order to enhance the duration and make appearance sightly.

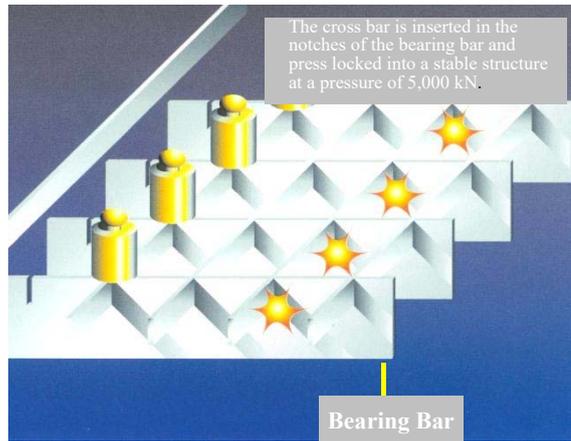
Definitely MeiseGrate is a good choice for betterment of applications.



**MeiseGrate press locked gratings** are usually made of steel, stainless steel or aluminum. However, other materials can be used if the customer so wishes.

On our computer controlled production lines, the bearing bars are notched and, at the same time, locked with the non-attenuated cross bar and weld both together afterwards

This particular production method guarantees a uniform precision mesh size. The edge of the press locked gratings is banded either with T-shaped special section or flat bar. This process i.e. where the banding is welded at right angles to and flush with the grating surface is effected on an automatic bordering machine via resistance welding

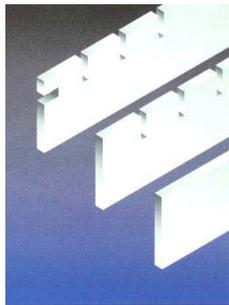


**Maximum cross bar length**  
 2900 mm bearing bar 2-3 mm  
 2300 mm bearing bar 4-5 mm

**Maximum bearing bar length**  
 Although production method does not set any limits here, in practice the length will be predetermined by statical requirements and unit weights.

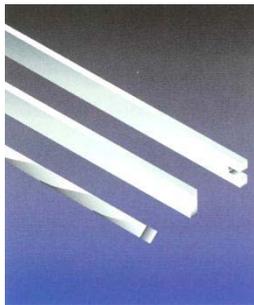
**End meshing**  
 End meshes opposite one another are the same size. Customised solutions also possible on request.

## Technical Terms



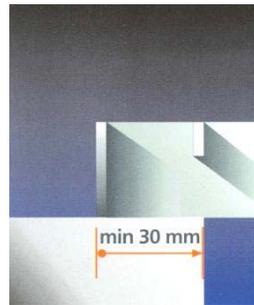
### Bearing bars

In parallel with one another from one rest to the next, the bearing bars are the load carrying flat bars set out perpendicularly.



### Cross bars

At right angles to the bearing bars, the cross bars connect the bearing bars with one another in that they are pressed and/or welded at the intersection points



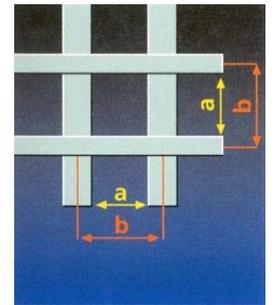
### Grating rests

The length of the bearing bar ends lying on the substructure. A grating rest should be about the height of a bearing bar but never less than 30 mm.



### Banding bars

Gratings are usually banded all-round by flat bar, T-shaped section or U-shaped section means



**Mesh spacing** = measurement from axis to axis (b) for the bearing bars and cross bars

**Mesh width** = clear distance (a) between the bearing bar and the cross bar



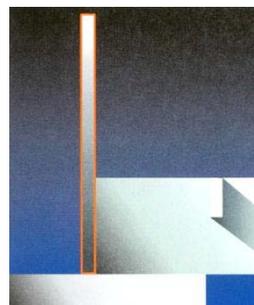
### Angle collar

Is an angle welded on to the grating on one or more sides. The span of the angle should be at least bearing bar height.



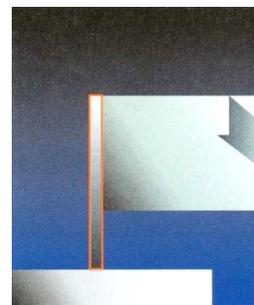
### Notching

Special notching on the bearing bars and banding bars in the area of the rests



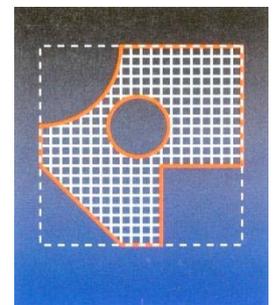
### Bottom support

Banding strengthened and extended upwards



### Landing

Banding strengthened and extended downwards -in order to increase height



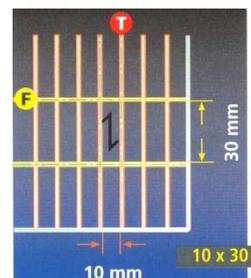
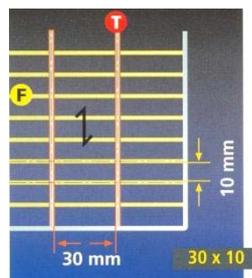
### Cut-outs

These are entire sections or oblique sections removed from the grating. If the length of cut is smaller than 0.5 m, we refer to them as "small" cut-outs

## Mesh size

Mesh size is largely determined by the way the mesh is configured i.e. depending on the different spaces which the bearing bar (T) and the cross bar (F) can take. In all our tables on the following pages, the first value is that of the bearing bar space in mm and the second is that of the cross bar space in mm.

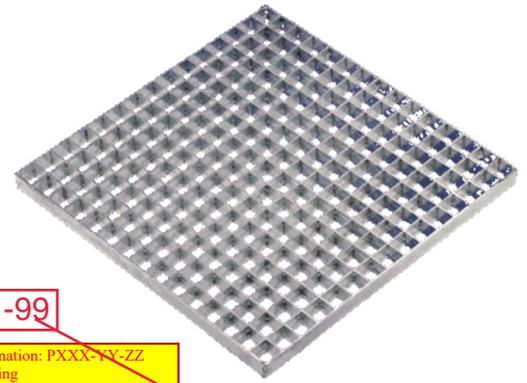
If you look at the diagram below, we have contrasted a 30 x 10 with a 10 x 30 mm mesh as an illustration.



## Meshing / Materials

### Material Group 2/3

Bearing Bar 2mm	Bearing Bar 3mm	Cross Bar	Banding Bar
20 x 2	20 x 3	10x2 / 12x3	20 x 3
25 x 2	25 x 3	10x2 / 12x3	25 x 3
30 x 2	30 x 3	10x2 / 12x3	30 x 3
35 x 2	35 x 3	10x2 / 12x3	35 x 3
40 x 2	40 x 3	10x2 / 12x3	40 x 3
45 x 2	45 x 3	10x2 / 12x3	45 x 3
50 x 2	50 x 3	10x2 / 12x3	50 x 3
60 x 2	60 x 3	20x2 / 20x3	60 x 3
	70 x 3	20x2 / 20x3	70 x 3
	80 x 3	20x2 / 20x3	80 x 3
	90 x 3	20x2 / 20x3	90 x 3
	100 x 3	20x2 / 20x3	100 x 3



P303-11-99

Type of Grating Designation: PXXX-YY-ZZ  
 P = Press Locked Grating  
 XXX = bearing bar size, like 30x3mm  
 YY = bearing bar spacing, like 33=33.3mm c/c  
 ZZ = cross bar spacing, like 99=99.9mm c/c

### Mesh Width Clearance

Clear mesh width is calculated on the basis of the given mesh spacing and the thickness of the materials used.

#### Example

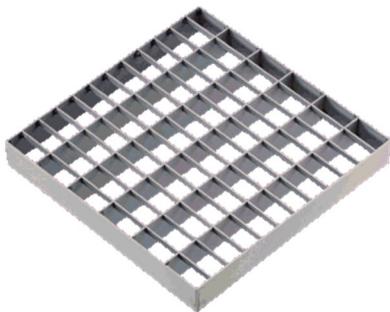
Spacing of 33.3 x 33.3 / bearing bar 3 mm / cross bar 2mm = a clearance of 30.3 x 31.3.  
 In the trade. It is usually called a "30 x 30".

### Usual Mesh Spacing

Bearing Bar	Cross Bar	Usual Mesh Spacing					
11.1	X	11.1		22.2	33.3		99.9
12.5	X						99.9
21.0	X		210		33.3		99.9
22.2	X	11.1		22.2	33.3	44.4	66.6 99.9
33.3	X	11.1	16.65	21.0	22.2	33.3	66.6 99.9
44.4	X	11.1		22.2		44.4	66.6 99.9
55.5	X				33.3		55.5 99.9
66.6	X				33.3		66.6 99.9
99.9	X	11.1		22.2	33.3	55.5	66.6 99.9

Note: Meshes are available by multiple of 11.1 up to 166.5

### Material Group 4/5



### Usual Mesh Spacing

Bearing Bar	Cross Bar	Usual Mesh Spacing					
21.1	X	11.1	22.2	33.3	44.4		
25.0	X			33.3			
33.2	X	16.5	22.2	33.3		66.6	

Bearing Bar 4mm	Cross Bar	Bearing Bar 5mm	Cross Bar	Banding Bar
25 x 4	10 x 3	25 x 5	15 x 5	Flat banding bar in bearing bar dimension
30 x 4	12 x 3	30 x 5	15 x 5	
35 x 4	12 x 3	30 x 5	15 x 5	
40 x 4	12 x 3	40 x 5	15 x 5	
45 x 4	12 x 3	45 x 5	15 x 5	
50 x 4	12 x 3	50 x 5	15 x 5	
		55 x 5	15 x 5	
60 x 4	20 x 3	60 x 5	15 x 5	
70 x 4	20 x 3	70 x 5	15 x 5	
80 x 4	20 x 3	80 x 5	15 x 5	
90 x 4	20 x 3	90 x 5	15 x 5	
100 x 4	20 x 3			
		100 x 5	20 x 5	
		110 x 5	20 x 5	
		120 x 5	20 x 5	
		130 x 5	20 x 5	
		140 x 5	20 x 5	
		150 x 5	20 x 5	

The press locked grating is by notching the bearing bars to the lock cross bars, and then by 2mm spot weld to bond both bars together as well.

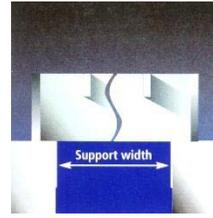
The edge of press locked gratings finally is banded with flat bar or special T section to form a grating panel. All welds are done by an automatic resistance welding machine.

# Load Table for Press Locked Steel Gratings

- No pedestrian access
- Pedestrian access
- Vehicle access trucks up to 3 tones in overall weight
- Vehicle access trucks up to 9 tones in overall weight
- Vehicle access trucks up to 30 tones in overall weight

**Fp** Individual load in kN

**Fv** Uniformly distributed load in kN / m<sup>2</sup>



Note:  
We recommended that vehicular access gratings be based on bearing bars with a 4 or 5 mm thickness.  
\* support wide = clear distance between the rests

The values shown have been calculated for max admissible load rating on the basis of a load carrying area of 200 x 200 mm and a bearing bar spacing 33.3 mm. To avoid trip-up points, the bending under individual load may not exceed 4mm. Please note the colored nominated line

Support width [mm]	Bearing bars [ mm ]																																			
	20 x 2		25 x 2		30 x 2		35 x 2		40 x 2		50 x 2		25 x 3		30 x 3		35 x 3		40 x 3		50 x 3		60 x 3		70 x 3		30 x 4		35 x 4		40 x 4		45 x 4		50 x 4	
	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv
300	3.58	51.20	5.55	80.00	7.92	115.20	10.68	156.80	13.82	204.80	21.19	320.00	8.33	120.00	11.88	172.80	16.02	235.20	20.74	307.20	31.79	480.00	44.95	691.20	59.98	940.80	15.85	230.40	21.36	313.60	27.65	409.60	34.68	518.40	42.38	640.00
400	2.39	28.80	3.70	45.00	5.28	64.80	7.12	88.20	9.22	115.20	14.13	180.00	5.55	67.50	7.92	97.20	10.68	132.30	13.82	172.80	21.19	270.00	29.96	388.80	39.98	529.20	10.56	129.60	14.24	176.40	18.43	230.40	23.12	291.60	28.26	360.00
500	1.79	18.43	2.78	28.80	3.96	41.47	5.34	56.45	6.91	73.73	10.60	115.20	4.16	43.20	5.94	62.21	8.01	84.67	10.37	110.59	15.89	172.80	22.47	248.83	29.99	338.69	7.92	82.94	10.68	112.90	13.82	147.46	17.34	186.62	21.19	230.40
600	1.43	12.80	2.22	20.00	3.17	28.80	4.27	39.20	5.53	51.20	8.48	80.00	3.33	30.00	4.75	43.20	6.41	58.80	8.29	76.80	12.72	120.00	17.98	172.80	23.99	235.20	6.34	57.60	8.54	78.40	11.06	102.40	13.87	129.60	16.95	160.00
700	1.19	9.40	1.85	14.69	2.64	21.16	3.56	28.80	4.61	37.62	7.06	58.78	2.78	22.04	3.96	31.74	5.34	43.20	6.91	56.42	10.60	88.16	14.98	126.96	19.99	172.80	5.28	42.32	7.12	57.60	9.22	75.23	11.56	95.22	14.13	117.55
800	0.91	6.30	1.59	11.25	2.26	16.20	3.05	22.05	3.95	28.80	6.05	45.00	2.38	16.88	3.40	24.30	4.58	33.08	5.92	43.20	9.08	67.50	12.84	97.20	17.14	132.30	4.53	32.40	6.10	44.10	7.92	57.60	9.91	72.90	12.11	90.00
900	0.71	4.42	1.38	8.64	1.98	12.80	2.67	17.42	3.46	22.76	5.30	35.56	2.07	12.96	2.97	19.20	4.00	26.13	5.18	34.13	7.95	53.33	11.24	76.80	14.99	104.53	3.96	25.60	5.34	34.84	6.91	45.51	8.67	57.60	10.60	71.11
1000	0.58	3.23	1.11	6.30	1.76	10.37	2.37	14.11	3.07	18.43	4.71	28.80	1.67	9.45	2.64	15.55	3.56	21.17	4.61	27.65	7.06	43.20	9.99	62.21	13.33	84.67	3.52	20.74	4.75	28.22	6.14	36.86	7.71	46.66	9.42	57.60
1100	0.47	2.42	0.92	4.73	1.57	8.18	2.14	11.66	2.76	15.23	4.24	23.80	1.38	7.10	2.36	12.27	3.20	17.49	4.15	22.85	6.36	35.70	8.99	51.41	12.00	69.98	3.14	16.36	4.27	23.33	5.53	30.47	6.94	38.56	8.48	47.60
1200	0.40	1.87	0.77	3.65	1.32	6.30	1.94	9.80	2.51	12.80	3.85	20.00	1.15	5.47	1.98	9.45	2.91	14.70	3.77	19.20	5.78	30.00	8.17	43.20	10.90	58.80	2.63	12.60	3.88	19.60	5.03	25.60	6.31	32.40	7.71	40.00
1300	0.34	1.47	0.65	2.87	1.12	4.96	1.76	7.87	2.30	10.91	3.53	17.04	0.98	4.30	1.68	7.43	2.64	11.80	3.46	16.36	5.30	25.56	7.49	36.81	10.00	50.10	2.24	9.91	3.52	15.74	4.61	21.81	5.78	27.61	7.06	34.08
1400	0.29	1.18	0.56	2.30	0.96	3.97	1.52	6.30	2.13	9.40	3.26	14.69	0.84	3.44	1.45	5.95	2.27	9.45	3.19	14.11	4.89	22.04	6.91	31.74	9.23	43.20	1.93	7.93	3.03	12.60	4.25	18.81	5.34	23.80	6.52	29.39
1500	0.25	0.96	0.49	1.87	0.84	3.23	1.32	5.12	1.95	7.65	3.03	12.80	0.73	2.80	1.26	4.84	1.98	7.68	2.93	11.47	4.54	19.20	6.42	27.65	8.57	37.63	1.68	6.45	2.64	10.24	3.90	15.29	4.95	20.74	6.05	25.60
1600	0.22	0.79	0.43	1.54	0.74	2.66	1.16	4.22	1.71	6.30	2.83	11.25	0.65	2.31	1.11	3.99	1.74	6.33	2.57	9.45	4.24	16.88	5.99	24.30	8.00	33.08	1.47	5.32	2.32	8.44	3.43	12.60	4.62	17.94	5.65	22.50
1700	0.20	0.66	0.38	1.28	0.65	2.22	1.03	3.52	1.52	5.25	2.65	9.97	0.57	1.92	0.98	3.32	1.54	5.28	2.28	7.88	3.97	14.95	5.62	21.53	7.50	29.30	1.30	4.43	2.05	7.04	3.03	10.50	4.28	14.96	5.30	19.93
1800	0.18	0.55	0.34	1.08	0.58	1.87	0.91	2.96	1.35	4.42	2.49	8.64	0.51	1.62	0.87	2.80	1.37	4.45	2.03	6.64	3.74	12.96	5.29	19.20	7.06	26.13	1.16	3.73	1.83	5.93	2.70	8.85	3.82	12.60	4.99	17.28
1900	0.16	0.47	0.30	0.92	0.52	1.59	0.82	2.52	1.21	3.76	2.32	7.35	0.46	1.38	0.78	2.38	1.23	3.78	1.82	5.64	3.49	11.02	4.99	17.23	6.66	23.45	1.04	3.17	1.64	5.04	2.43	7.52	3.42	10.71	4.65	14.70
2000	0.14	0.40	0.27	0.79	0.47	1.36	0.74	2.16	1.09	3.23	2.10	6.30	0.41	1.18	0.71	2.04	1.11	3.24	1.64	4.84	3.14	9.45	4.73	15.55	6.31	21.17	0.94	2.72	1.48	4.32	2.19	6.45	3.09	9.19	4.19	12.60

Support width [mm]	Bearing bars [ mm ]																																			
	60 x 4		70 x 4		80 x 4		90 x 4		30 x 5		35 x 5		40 x 5		50 x 5		60 x 5		40 x 3		50 x 3		60 x 3		70 x 3		30 x 4		35 x 4		40 x 4		45 x 4		50 x 4	
	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv
300	59.93	921.60	79.97	1254.40	102.36	1638.40	127.06	2073.60	19.81	288.00	26.70	392.00	34.56	512.00	52.98	800.00	74.91	1152.00	99.96	1568.00	127.95	2048.00	158.82	2592.00	192.00	3200.00	232.32	3872.00	276.48	4608.00	324.48	5408.00	376.32	6272.00	432.00	7200.00
400	39.95	518.40	53.31	705.60	68.24	921.60	84.71	1166.40	13.20	162.00	17.80	220.50	23.04	288.00	35.32	450.00	49.94	648.00	66.64	882.00	85.30	1152.00	105.88	1458.00	128.00	1800.00	154.88	2178.00	184.32	2592.00	216.32	3042.00	250.88	3528.00	288.00	4050.00
500	29.96	331.78	39.98	451.58	51.18	589.82	63.53	746.50	9.90	103.68	13.35	141.12	17.28	184.32	26.49	288.00	37.45	414.72	49.98	564.48	63.97	737.28	79.41	933.12	96.00	1152.00	116.16	1393.92	138.24	1658.88	162.24	1946.88	188.16	2257.92	216.00	2592.00
600	23.97	230.40	31.99	313.60	40.94	409.60	50.82	518.40	7.92	72.00	10.68	98.00	13.82	128.00	21.19	200.00	29.96	288.00	39.98	392.00	51.18	512.00	63.53	648.00	76.80	800.00	92.93	968.00	110.59	1152.00	129.79	1352.00	150.53	1568.00	172.80	1800.00
700	19.98	169.27	26.66	230.40	34.12	300.93	42.35	380.87	6.60	52.90	8.90	72.00	11.52	94.04	17.66	146.94	24.97	211.59	33.32	288.00	42.65	376.16	52.94	476.08	64.00	587.76	77.44	711.18	92.16	846.37	108.16	993.31	125.44	1152.00	144.00	1322.45
800	17.12	129.60	22.85	176.40	29.25	230.40	36.30	291.60	5.66	40.50	7.63	55.13	9.87	72.00	15.14	112.50	21.40	162.00	28.56	220.50	36.56	288.00	45.38	364.50	54.86	450.00	66.38	544.50	78.99	648.00	92.71	760.50	107.52	882.00	123.43	1012.50
900	14.98	102.40	19.99	139.38	25.59	182.04	31.76	230.40	4.95	32.00	6.67	43.56	8.64	56.89	13.25	88.89	18.73	128.00	24.99	174.22	31.99	227.56	39.71	288.00	48.00	355.56	58.08	430.22	69.12	512.00	81.12	600.89	94.08	696.89	108.00	800.00
1000	13.32	82.94	17.77	112.90	22.75	147.46	28.24	186.62	4.40	25.92	5.93	35.28	7.68	46.08	11.77	72.00	16.65	103.68	22.21	141.12	28.43	184.32	35.29	233.28	42.67	288.00	51.63	348.48	61.44	414.72	72.11	486.72	83.63	564.48	96.00	648.00
1100	11.99	68.55	15.99	93.30	20.47	121.86	25.41	154.23	3.93	20.45	5.34	29.16	6.91	38.08	10.60	59.50	14.98	85.69	19.99	116.63	25.59	152.33	31.76	192.79	38.40	238.02	46.46	288.00	55.30	342.74	64.90	402.25	75.26	466.51	86.40	535.54
1200	10.90	57.60	14.54	78.40	18.61	102.40	23.10	129.60	3.29	15.75	4.85	24.50	6.28	32.00	9.63	50.00	13.62	72.00	18.17	98.00	23.26	128.00	28.88	162.00	34.91	200.00	42.24	242.00	50.27	288.00	59.00	338.00	68.42	392.00	78.55	450.00
1300	9.99	49.08	13.33	66.80	17.06	87.25	21.18	110.43	2.80	12.39	4.40	19.67	5.76	27.27	8.83	42.60	12.48	61.35	16.66	83.5																

# Load Table for Press Locked Aluminium Gratings

Fp

Individual load in kN

Fv

Uniformly distributed load in kN / m<sup>2</sup>

Conversion factor for kg into kN

10 kN = 1 tone

1kN = 100 kg

\* Support width = clearance between the rest

No pedestrian access

Pedestrian access

The values shown have been calculated for max admissible load rating on the basis of a load carrying area of 200 x 200 mm and a bearing bar spacing 33.3 mm. To avoid trip-up points, the bending under individual load may not exceed 4mm. Please note the colored nominated line

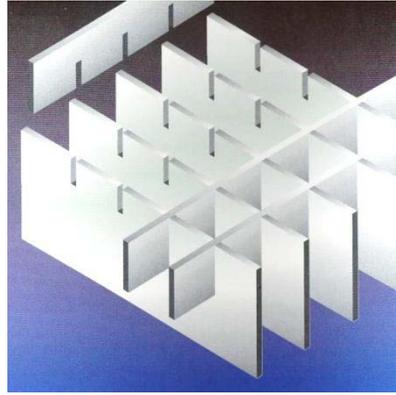
Support width [mm]	Bearing bars [mm]																															
	25 x 2		30 x 2		35 x 2		40 x 2		45 x 2		50 x 2		25 x 3		30 x 3		35 x 3		40 x 3		45 x 3		50 x 3		60 x 3		70 x 3		30 x 4		35 x 4	
	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv
300	3.00	43.25	4.28	62.28	5.77	84.77	7.47	110.72	9.37	140.13	11.46	173.00	4.50	64.88	6.42	93.42	8.66	127.16	11.21	166.08	14.06	210.20	17.19	259.50	24.30	373.68	32.42	508.62	8.57	124.56	11.55	169.54
400	2.00	24.33	2.86	35.03	3.85	47.68	4.98	62.28	6.25	78.82	7.64	97.31	3.00	36.49	4.28	52.55	5.77	71.52	7.47	93.42	9.37	118.23	11.46	145.97	16.20	210.20	21.62	286.10	5.71	70.07	7.70	95.37
500	1.50	15.57	2.14	22.42	2.89	30.52	3.74	39.86	4.69	50.45	5.73	62.28	2.25	23.36	3.21	33.63	4.33	45.78	5.61	59.79	7.03	75.67	8.59	93.42	12.15	134.52	16.21	183.10	4.28	44.84	5.77	61.03
600	1.10	10.00	1.71	15.57	2.31	21.19	2.99	27.68	3.75	35.03	4.58	43.25	1.64	15.00	2.57	23.36	3.46	31.79	4.48	41.52	5.62	52.55	6.87	64.88	9.72	93.42	12.97	127.16	3.43	31.14	4.62	42.39
700	0.79	6.30	1.36	10.88	1.92	15.57	2.49	20.34	3.12	25.74	3.82	31.78	1.19	9.45	2.04	16.32	2.89	23.36	3.74	30.50	4.69	38.61	5.73	47.66	8.10	68.64	10.81	93.42	2.72	21.76	3.85	31.14
800	0.60	4.22	1.03	7.29	1.62	11.58	2.14	15.57	2.68	19.71	3.27	24.33	0.90	6.33	1.55	10.94	2.44	17.36	3.20	23.36	4.02	29.56	4.91	36.49	6.94	52.55	9.26	71.52	2.07	14.58	3.25	23.15
900	0.47	2.96	0.81	5.12	1.28	8.13	1.87	12.14	2.34	15.57	2.86	19.22	0.71	4.44	1.22	7.68	1.91	12.20	2.80	18.20	3.52	23.36	4.30	28.83	6.07	41.52	8.11	56.51	1.62	10.24	2.55	16.26
1000	0.38	2.16	0.65	3.73	1.03	5.93	1.52	8.85	2.08	12.60	2.55	15.57	0.57	3.24	0.98	5.60	1.54	8.89	2.28	13.27	3.12	18.90	3.82	23.36	5.40	33.63	7.21	45.78	1.31	7.46	2.06	11.85
1100	0.31	1.62	0.54	2.80	0.85	4.45	1.25	6.65	1.77	9.46	2.29	12.87	0.47	2.43	0.81	4.21	1.27	6.68	1.88	9.97	2.65	14.20	3.44	19.30	4.86	27.79	6.48	37.83	1.08	5.61	1.69	8.91
1200	0.26	1.25	0.45	2.16	0.71	3.43	1.05	5.12	1.48	7.29	2.01	10.00	0.40	0.68	0.68	3.24	1.07	5.15	1.58	7.68	2.22	10.94	3.02	15.00	4.42	23.36	5.90	31.79	0.90	4.32	1.42	6.86
1300	0.22	0.98	0.38	1.70	0.60	2.70	0.89	4.03	1.26	5.73	1.71	7.87	0.34	1.47	0.58	2.55	0.91	4.05	1.34	6.04	1.89	8.60	2.57	11.80	4.05	19.90	5.40	27.09	0.77	3.40	1.21	5.40
1400	0.19	0.79	0.33	1.36	0.52	2.16	0.77	3.22	1.09	4.59	1.47	6.30	0.29	1.18	0.50	2.04	0.78	3.24	1.15	4.84	1.63	6.89	2.21	9.45	3.74	16.32	4.99	23.36	0.66	2.72	1.04	4.32
1500	0.17	0.64	0.29	1.11	0.45	1.76	0.67	2.62	0.94	3.73	1.28	5.12	0.25	0.96	0.43	1.66	0.68	2.63	1.00	3.93	1.42	5.60	1.92	7.68	3.26	13.27	4.63	20.34	0.58	2.21	0.90	3.51
1600	0.15	0.53	0.25	0.91	0.40	1.45	0.59	2.16	0.83	3.08	1.13	4.22	0.22	0.79	0.38	1.37	0.60	2.17	0.88	3.24	1.24	4.61	1.69	6.33	2.87	10.94	4.32	17.36	0.51	1.82	0.79	2.89
1700	0.13	0.44	0.22	0.76	0.35	1.21	0.52	1.80	0.73	2.56	1.00	3.52	0.20	0.66	0.34	1.14	0.53	1.81	0.78	2.70	1.10	3.85	1.49	5.28	2.54	9.12	3.95	14.48	0.45	1.52	0.70	2.41
1800	0.12	0.37	0.20	0.64	0.31	1.02	0.46	1.52	0.65	2.16	0.89	2.96	0.17	0.56	0.30	0.96	0.47	1.52	0.70	2.28	0.98	3.24	1.33	4.44	2.26	7.68	3.52	12.20	0.40	1.28	0.63	2.03
1900	0.10	0.31	0.18	0.54	0.28	0.86	0.42	1.29	0.59	1.84	0.80	2.52	0.16	0.47	0.27	0.82	0.42	1.30	0.62	1.93	0.88	2.75	1.20	3.78	2.03	6.53	3.16	10.37	0.36	1.09	0.56	1.73
2000	0.09	0.27	0.16	0.47	0.25	0.74	0.38	1.11	0.53	1.57	0.72	2.16	0.14	0.41	0.24	0.70	0.38	1.11	0.56	1.66	0.79	2.36	1.08	3.24	1.83	5.60	2.85	8.89	0.32	0.93	0.51	1.48

Support width [mm]	Bearing bars [mm]																															
	40 x 4		45 x 4		50 x 4		60 x 4		70 x 4		80 x 4		90 x 4		35 x 5		40 x 5		45 x 3		50 x 5		60 x 5		70 x 5		80 x 5		90 x 5		100 x 5	
	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv
300	14.95	221.44	18.75	280.26	22.91	346.00	32.40	498.24	43.23	678.16	55.34	885.76	68.69	1121.04	14.43	993	18.68	276.80	23.44	350.33	28.64	432.50	40.50	622.80	54.04	847.70	69.17	1107.20	85.86	1401.30	103.80	1730.00
400	9.96	124.56	12.50	157.65	15.28	194.63	21.60	280.26	28.82	381.47	36.89	498.24	45.79	630.59	9.62	1921	12.46	155.70	15.62	197.06	19.09	243.28	27.00	350.33	36.03	476.83	46.11	622.80	57.24	788.23	69.20	973.13
500	7.47	79.72	9.37	100.89	11.46	124.56	16.20	179.37	21.62	244.14	27.67	318.87	34.35	403.57	7.22	629	9.34	99.65	11.72	126.12	14.32	155.70	20.25	224.21	27.02	305.17	34.59	398.59	42.93	504.47	51.90	622.80
600	5.98	55.36	7.50	70.07	9.17	86.50	12.96	124.56	17.29	169.54	22.14	221.44	27.48	280.26	5.77	298	7.47	69.20	9.37	87.58	11.46	108.13	16.20	155.70	21.62	211.93	27.67	276.80	34.35	350.33	41.52	432.50
700	4.98	40.67	6.25	51.48	7.64	63.55	10.80	91.51	14.41	124.56	18.45	162.69	22.90	205.91	4.81	893	6.23	50.84	7.81	64.35	9.55	79.44	13.50	114.39	18.01	155.70	23.06	203.36	28.62	257.38	34.60	317.76
800	4.27	31.14	5.36	39.41	6.55	48.66	9.26	70.07	12.35	95.37	15.81	124.56	19.63	157.65	40.06	894	5.34	38.93	6.70	49.26	8.18	60.82	11.57	87.58	15.44	119.21	19.76	155.70	24.53	197.06	29.66	243.28
900	3.74	24.27	4.69	31.14	5.73	38.44	8.10	55.36	10.81	75.35	13.83	98.42	17.17	124.56	3.19	0.33	4.67	30.34	5.86	38.93	7.16	48.06	10.12	69.20	13.51	94.19	17.29	123.02	21.47	155.70	25.95	192.22
1000	3.04	17.69	4.17	25.19	5.09	31.14	7.20	44.84	9.61	61.03	12.30	79.72	15.26	100.89	2.57	'482	3.80	22.12	5.21	31.49	6.36	38.93	9.00	56.05	12.01	76.29	15.37	99.65	19.08	126.12	23.07	155.70
1100	2.51	13.29	3.54	18.93	4.58	25.74	6.48	37.06	8.65	50.44	11.07	65.88	13.74	83.38	2.12	1'13	3.13	16.62	4.42	23.66	5.73	32.17	8.10	46.32	10.81	63.05	13.83	82.35	17.17	104.23	20.76	128.68
1200	2.10	10.24	2.97	14.58	4.03	20.00	5.89	31.14	7.86	42.39	10.06	55.36	12.49	70.07	1.78	858	2.63	12.80	3.71	18.23	5.03	25.00	7.36	38.93	9.83	52.98	12.58	69.20	15.61	87.58	18.87	108.13
1300	1.79	8.05	2.52	11.47	3.42	15.73	5.40	26.53	7.21	36.12	9.22	47.17	11.45	59.70	1.51	6.74	2.23	10.07	3.15	14.33	4.28	19.66	6.75	33.17	9.01	45.14	11.53	58.96	14.31	74.63	17.30	92.13
1400	1.54	6.45	2.17	9.18	2.95	12.59	4.98	21.76	6.65	31.14	8.51	40.67	10.57	51.48	1.30	5.40	1.92	8.06	2.71	11.48	3.69	15.74	6.23	27.20	8.31	38.93	10.64	50.84	13.21	64.35	15.97	79.44
1500	1.34	5.24	1.89	7.46	2.57	10.24	4.35	17.69	6.18	27.13	7.91	35.43	9.81	44.84	1.13	4.39	1.67	6.55	2.36	9.33	3.21	12.80	5.44	22.12	7.72	33.91	9.88	44.29	12.27	56.05	14.83	69.20
1600	1.18	4.32	1.66	6.15	2.25	8.44	3.82	14.58	5.76	23.15	7.38	31.14	9.16	39.41	0.99	3.62	1.47	5.40	2.07	7.69	2.82	10.55	4.78	18.23	7.21	28.94	9.22	38.93	11.45	49.26	13.84	60.82
1700	1.04	3.60	1.47	5.13	1.99	7.03	3.38	12.16	5.27	19.30	6.92	27.58	8.59	34.91	0.88	3.02	1.30	4.50	1.83	6.41	2.49	8.79	4.23	15.19	6.58	24.13	8.65	34.48	10.73	43.64	12.98	53.88
1800	0.93	3.03	1.31	4.32	1.78	5.93	3.01	10.24	4.69	16.26	6.51	24.27	8.08	31.14	0.78	2.54	1.16	3.79	1.64	5.40	2.22	7.41										

## Heavy Duty Gratings

Heavy duty gratings are press locked gratings where the bearing bars and the cross bars are interlocked with one another and then processed at a pressure of 1,200 tones.

Thanks to their high stability and safety, heavy duty gratings are used where large support widths and high wheel pressures are required



Bearing Bar	Cross Bar
80 x 8	25 x 6
90 x 8	25 x 6
100 x 8	25 x 6
110 x 8	25 x 6
120 x 8	25 x 6
130 x 8	40 x 6
140 x 8	40 x 6
150 x 8	40 x 8
80 x 10	40 x 8
90 x 10	40 x 8
100 x 10	40 x 8
110 x 10	40 x 8
120 x 10	40 x 8
130 x 10	40 x 8
140 x 10	40 x 8
150 x 10	40 x 10
100 x 12	40 x 10
110 x 12	40 x 10
120 x 12	40 x 10
130 x 12	40 x 10
140 x 12	40 x 10
150 x 12	40 x 10
160 x 12	40 x 10
170 x 12	40 x 10
180 x 12	40 x 10

Bearing bar length max. 2500 mm

Usual Mesh Spacing				
Bearing Bar		Cross Bar		
50	x	50		100
75	x	50	75	100
100	x	50	75	100

### Production as per DIN 1072

If the gratings you order are for vehicular use, you must give us details in advance – of wheel pressure, load carrying area, support width and direction of travel so that we can calculate the grating flooring

Bridge class	Color keys	Wheel pressure	Load carrying areas
3/3	LKW up to 3 t	10 kN	200 x 200 mm
9/9	LKW up to 9 t	30 kN	200 x 260 mm
30/30	LKW up to 30 t	50 kN	200 x 400 mm
60/30	LKW up to 60 t	100 kN	200 x 600 mm

**Fp** Individual load in kN

\* Support width = clearance between the rest

- Vehicle access: trucks up to 3 tones in overall weight
- Vehicle access: trucks up to 9 tones in overall weight
- Vehicle access: trucks up to 30 tones in overall weight
- Vehicle access: trucks up to 60 tones in overall weight

The values shown have been calculated for max admissible load rating on the basis of the relevant load carrying area and bearing bar spacing of 50.0 mm.

Conversion factor for kg into kN

10 kN = 1 tone

1kN = 100 kg

Support width [mm]	Bearing bars [mm]																								
	80 x 8	90 x 8	100 x 8	110 x 8	120 x 8	130 x 8	140 x 8	150 x 8	80 x 10	90 x 10	100 x 10	110 x 10	120 x 10	130 x 10	140 x 10	150 x 10	100 x 12	110 x 12	120 x 12	130 x 12	140 x 12	150 x 12	160 x 12	170 x 12	180 x 12
	Fp	Fp	Fp	Fp	Fp	Fp	Fp	Fp	Fp	Fp	Fp	Fp	Fp	Fp	Fp	Fp	Fp	Fp	Fp	Fp	Fp	Fp	Fp	Fp	Fp
300	163.84	207.36	256.00	309.76	368.64	432.64	501.76	576.00	204.80	259.20	320.00	387.20	460.80	540.80	627.20	720.00	384.00	464.64	552.96	648.96	752.64	864.00	983.04	1109.76	1244.16
400	122.88	155.52	192.00	232.32	276.48	324.48	376.32	432.00	153.60	194.40	240.00	290.40	345.60	405.60	470.40	540.00	288.00	348.48	414.72	486.72	564.48	648.00	737.28	832.32	933.12
500	81.92	124.42	153.60	185.86	221.18	259.58	301.06	345.60	122.88	155.52	192.00	232.32	276.48	324.48	376.32	432.00	230.40	278.78	331.78	389.38	451.58	518.40	589.82	665.86	746.50
600	61.44	103.68	128.00	154.88	184.32	216.32	250.88	288.00	102.40	129.60	160.00	193.60	230.40	270.40	313.60	360.00	192.00	232.32	276.48	324.48	376.32	432.00	491.52	554.88	622.08
700	43.12	62.21	76.80	116.16	138.24	162.24	188.16	216.00	61.44	77.76	120.00	145.20	172.80	202.80	235.20	270.00	144.00	174.24	207.36	243.36	282.24	324.00	368.64	416.16	466.56
800	36.68	51.84	64.00	77.44	110.59	129.79	150.53	172.80	51.20	64.80	80.00	116.16	138.24	162.24	188.16	216.00	115.20	139.39	165.89	194.69	225.79	259.20	294.91	332.93	373.25
900	31.92	40.39	54.86	66.38	78.99	108.16	125.44	144.00	39.90	55.54	68.57	82.97	115.20	135.20	156.80	180.00	82.29	116.16	138.24	162.24	188.16	216.00	245.76	277.44	311.04
1000	27.31	35.75	44.14	58.08	69.12	81.12	107.52	123.43	35.31	44.69	60.00	72.60	86.40	115.89	134.40	154.29	72.00	87.12	118.49	139.06	161.28	185.14	210.65	237.81	266.61
1100	24.58	32.07	39.59	51.63	61.44	72.11	108.00	83.63	31.67	40.08	53.33	64.53	76.80	101.40	117.60	135.00	64.00	77.44	103.68	121.68	141.12	162.00	184.32	208.08	233.28
1200	22.34	28.28	35.89	43.42	55.30	64.90	75.26	86.40	27.93	36.34	44.86	58.08	69.12	81.12	104.53	120.00	57.60	69.70	82.94	108.16	125.44	144.00	163.84	184.96	207.36
1300	20.48	25.92	32.82	39.71	50.27	59.00	68.42	78.55	25.60	33.23	41.03	52.08	62.84	73.75	85.53	108.00	52.36	63.36	75.40	88.49	112.90	129.60	147.46	166.46	186.62
1400	18.90	23.93	30.24	36.59	43.54	54.08	62.72	72.00	23.63	30.61	37.80	45.73	57.60	67.60	78.40	90.00	45.35	58.08	69.12	81.12	102.63	117.82	134.05	151.33	169.66
1500	17.55	22.22	27.43	33.92	40.36	47.37	57.90	66.46	21.94	27.77	35.04	42.93	53.17	62.40	72.37	83.08	42.04	53.61	63.80	74.88	86.84	108.00	122.88	138.72	155.52
1600	16.38	20.74	25.60	31.61	37.62	44.15	53.76	61.71	20.48	25.92	32.65	39.51	47.20	57.94	67.20	77.14	39.18	47.41	59.25	69.53	80.84	92.57	113.43	128.05	143.56
1700	15.36	19.44	24.00	29.04	35.22	41.34	50.18	57.60	19.20	24.30	30.57	36.99	44.03	54.08	62.72	72.00	36.69	44.39	55.30	64.90	75.26	86.40	105.33	118.90	133.30
1800	14.46	18.30	22.59	27.33	33.11	38.86	45.07	54.00	18.07	22.87	28.24	34.78	41.39	50.70	58.80	67.50	34.49	41.73	51.84	60.84	70.56	81.00	92.16	110.98	124.42
1900	13.65	17.28	21.33	25.81	31.24	36.66	42.52	50.82	17.07	21.60	26.67	32.81	39.05	45.83	55.34	63.53	32.54	39.38	46.86	57.26	66.41	76.24	86.74	104.04	116.64
2000	12.93	16.37	20.21	24.45	29.10	34.70	40.25	46.20	16.17	20.46	25.26	31.06	36.96	43.38	52.27	60.00	30.80	37.27	44.36	54.08	62.72	7200	81.92	92.48	109.78

Other bearing bars up to 200 x 12 on request

## Full Gratings

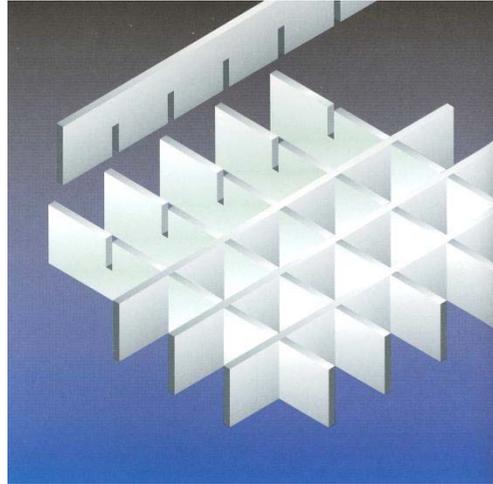
Full gratings are press locked gratings with bearing bars and cross bars of equal height and which have been notched up to half of their height. The bearing bar is defined as that bar which sits at both the ends and the underside of which is not notched.

Full gratings are used for escape and window balconies but they can also be used as a sun shield, as a building exterior, as a honeycomb ceiling, as a ventilation grille and as banister material.

MeiseGrate full gratings come in steel, stainless steel or aluminium. If requested, we can also process other materials. Just give us a call!

Full gratings can be produced with a bearing bar of up to 100 x 5 mm.

Grating length must be less than 1800 mm.



The values shown have been calculated for using computer model on the basis of a grating width of 1000mm, a bearing bar spacing of 33.3mm and a load carrying area of 200 x 200 mm.

Bearing Bar 2 / 3 mm	Cross Bar	Banding Bar
25x2 / 25x3	25x2 / 25x3	25 x 3
30x2 / 30x3	30x2 / 30x3	30 x 3
35x2 / 35x3	35x2 / 35x3	35 x 3
40x2 / 40x3	40x2 / 40x3	40 x 3
45x2 / 45x3	45x2 / 45x3	45 x 3
50x2 / 50x3	50x2 / 50x3	50 x 3
60x2 / 60x3	60x2 / 60x3	60 x 3
70x3	70x3	70 x 3
80x3	80x3	80 x 3
90x3	90x3	90 x 3
100 x 3	100 x 3	100 x 3

Bearing Bar 2 / 3 mm	Cross Bar	Banding Bar
25 x 5	25 x 5	Flat banding bar in bearing bar dimension
30 x 5	30 x 5	
35 x 5	35 x 5	
40 x 5	40 x 5	
45 x 5	45 x 5	
50 x 5	50 x 5	
60 x 5	60 x 5	

Usual Mesh Spacing					
Bearing Bar	Cross Bar		Cross Bar		
11.1	x			33.3	
22.2	x		22.2	33.3	44.4
33.3	x	11.1	22.2	33.3	66.6
44.4	x		22.2		44.4
66.6	x				66.6

Usual Mesh Spacing				
Bearing Bar	Cross Bar		Cross Bar	
33.3	x	33.3	66.6	99.9
66.6	X	33.3	66.6	
9.99	x	33.3		99.9

Escape route for pedestrian access minimum 2.0 kN individual load and 5.0kN

Maintenance staff access only minimum 1 kN individual load

Normal pedestrian access minimum 1.5 kN individual load and 3.5 kN area load

No pedestrian access – snow load only

Fp

Individual load in kN

Conversion factor for kg into kN

10 kN = 1 tone

1kN = 100 kg

Fv

Uniformly distributed load in kN / m<sup>2</sup>

### Steel Full Gratings

#### Bearing bars [mm]

Support width [mm]	Bearing bars [mm]																							
	30 x 2		35 x 2		40 x 2		45 x 2		50 x 2		60 x 2		30 x 3		35 x 3		40 x 3		45 x 3		50 x 3		60 x 3	
	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv
300	2.61	49.06	2.94	66.77	3.85	87.22	4.87	110.38	6.01	136.28	8.65	196.24	3.24	73.59	4.42	100.16	5.77	130.82	7.30	165.57	9.01	204.41	12.98	294.35
400	1.62	27.60	2.21	37.56	2.88	49.06	3.65	62.09	4.51	76.65	6.49	110.38	24.3	41.39	3.31	56.34	4.33	73.59	5.48	93.14	6.76	114.98	9.73	165.57
500	1.54	17.66	2.10	24.04	2.74	31.40	3.47	39.74	4.28	49.06	6.17	70.65	2.31	26.49	3.15	36.06	4.11	47.10	5.20	59.61	6.42	73.59	9.25	105.97
600	1.49	12.26	2.02	16.69	2.64	21.80	3.35	27.60	4.13	34.07	5.95	49.06	2.23	18.40	3.04	25.04	3.97	32.71	5.02	41.39	6.20	51.10	8.92	73.59
700	1.45	9.01	1.97	12.26	2.58	16.02	3.26	20.27	4.02	25.03	5.79	36.04	2.17	13.52	2.96	18.40	3.86	24.03	4.89	30.41	6.04	37.55	8.69	54.07
800	1.36	5.85	1.93	9.28	2.52	12.26	3.19	15.52	3.94	19.16	5.68	27.60	2.04	8.77	2.90	13.92	3.79	18.40	4.79	23.28	5.92	28.75	8.52	41.39
900	1.06	3.65	1.68	5.79	2.48	8.65	3.14	12.26	3.88	15.14	5.59	21.80	1.59	5.47	2.52	8.69	3.73	12.98	4.72	18.40	5.82	22.71	8.38	32.71
1000	0.85	2.39	1.35	3.80	2.01	5.68	2.86	8.08	3.83	11.08	5.52	17.66	1.27	3.59	2.02	5.70	3.01	8.51	4.29	12.12	5.75	16.63	8.27	26.49
1100	0.73	1.64	1.16	2.60	1.73	3.88	2.46	5.52	3.38	7.57	5.75	13.08	1.10	2.45	1.74	3.90	2.60	5.81	3.70	8.28	5.07	11.36	7.63	19.62
1200	0.61	1.15	0.96	1.83	1.44	2.74	2.04	3.90	2.80	5.35	4.85	9.24	0.91	1.73	1.44	2.75	2.15	4.11	3.07	5.85	4.21	8.02	7.27	13.86
1300	0.51	0.84	0.81	1.33	1.21	1.99	1.72	2.83	2.36	3.88	4.08	6.71	0.77	1.26	1.22	2.00	1.81	2.98	2.58	4.24	3.54	5.82	6.12	10.06
1400	0.44	0.62	0.69	0.99	1.03	1.48	1.47	2.10	2.02	2.89	3.49	4.99	0.65	0.93	1.04	1.48	1.55	2.22	2.21	3.16	3.03	4.33	5.23	7.48
1500	0.38	0.47	0.60	0.75	0.89	1.12	1.27	1.60	1.74	2.19	3.01	3.78	0.56	0.71	0.90	1.13	1.34	1.68	1.91	2.39	2.61	3.28	4.52	5.68
1700	0.26	0.29	0.41	0.46	0.61	0.68	0.87	0.97	1.20	1.33	2.07	2.29	0.39	0.43	0.62	0.68	0.92	1.02	1.31	1.45	1.80	1.99	3.10	3.44
2000	0.16	0.15	0.25	0.24	0.38	0.35	0.54	0.51	0.74	0.69	1.27	1.20	0.24	0.22	0.38	0.36	0.56	0.53	0.80	0.76	1.10	1.04	1.91	1.80
2500	0.08	0.06	0.13	0.10	0.19	0.15	0.27	0.21	0.38	0.28	0.65	0.49	0.12	0.09	0.19	0.15	0.29	0.22	0.41	0.31	0.56	0.43	0.98	0.74

### Aluminium Full Gratings

Support width [mm]	Bearing bars [mm]																							
	30 x 2		35 x 2		40 x 2		45 x 2		50 x 2		60 x 2		30 x 3		35 x 3		40 x 3		45 x 3		50 x 3		60 x 3	
	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv
300	1.28	28.76	1.75	39.14	2.28	51.13	2.89	64.71	3.57	79.89	5.14	115.04	1.93	43.14	2.62	58.72	3.43	76.69	4.33	97.06	5.35	119.83	7.71	172.55
400	0.96	16.18	1.31	22.02	1.71	28.76	2.17	6.40	2.68	44.94	3.85	64.71	1.44	24.27	1.97	33.03	2.57	43.14	3.25	54.60	4.01	67.40	5.78	97.06
500	0.79	10.35	1.25	14.09	1.63	18.41	2.06	23.29	2.54	28.76	3.66	41.41	1.18	15.53	1.87	21.14	2.44	27.61	3.09	34.94	3.81	43.14	5.49	62.12
600	0.63	6.16	1.01	9.78	1.50	12.78	1.99	16.18	2.45	19.97	3.53	28.76	0.95	9.24	1.51	14.67	2.26	19.17	2.98	24.27	3.68	29.96	5.30	43.14
700	0.53	3.32	0.84	5.28	1.26	7.88	1.79	11.22	2.39	14.67	3.44	21.13	0.798	4.99	1.26	7.92	1.88	11.82	2.68	16.83	3.58	22.01	5.16	31.69
800	0.45	1.95	0.72	3.09	1.08	4.62	1.53	6.58	2.10	9.02	3.37	15.59	0.68	2.92	1.08	4.64	1.62	6.93	2.30	9.68	3.15	13.53	5.06	23.38
900	0.35	1.22	0.56	1.93	0.84	2.88	1.19	4.11	1.64	5.63	2.83	9.73	0.53	1.82	0.84	2.90	1.26	4.33	1.79	6.16	2.45	8.45	4.24	14.60
1000	0.28	0.80	0.45	1.27	0.67	1.89	0.95	2.69	1.31	3.69	2.26	6.38	0.42	1.20	0.67	1.90	1.00	2.84	1.43	4.04	1.96	5.54	3.39	9.58
1100	0.24	0.55	0.39	0.87	0.58	1.29	0.82	1.84	1.13	2.52	1.95	4.36	0.37	0.82	0.58	1.30	0.87	1.94	1.23	2.76	1.69	3.79	2.92	6.54
1200	0.20	0.38	0.32	0.61	0.48	0.91	0.68	1.30	0.93	1.78	1.62	3.08	0.30	0.58	0.48	0.92	0.72	1.37	1.02	1.95	1.40	2.67	2.42	4.62
1300	0.17	0.28	0.27	0.44	0.40	0.66	0.57	0.94	0.79	1.29	1.36	2.24	0.26	0.42	0.41	0.67	0.60	0.99	0.86	1.41	1.18	1.94	2.04	3.35
1400	0.15	0.21	0.23	0.33	0.34	0.49	0.49	0.70	0.67	0.96	1.16	1.66	0.22	0.31	0.35	0.49	0.52	0.74	0.74	1.05	1.01	1.44	1.74	2.49
1500	0.13	0.16	0.20	0.25	0.30	0.37	0.42	0.53	0.58	0.73	1.00	1.26	0.19	0.24	0.30	0.38	0.45	0.56	0.64	0.80	0.87	1.09	1.51	1.89
1700	0.09	0.10	0.14	0.15	0.20	0.23	0.29	0.32	0.40	0.44	0.69	0.76	0.13	0.14	0.21	0.23	0.31	0.34	0.44	0.48	0.60	0.66	1.03	1.15
2000	0.05	0.05	0.08	0.08	0.13	0.12	0.18	0.17	0.25	0.23	0.42	0.40	0.08	0.07	0.13	0.12	0.19	0.18	0.27	0.25	0.37	0.35	0.64	0.60
2500	0.03	0.02	0.04	0.03	0.06	0.05	0.09	0.07	0.13	0.09	0.22	0.16	0.04	0.03	0.06	0.05	0.10	0.07	0.14	0.10	0.19	0.14	0.33	0.25



# Press Welded Gratings

MeiseGrate press welded gratings are produced from steel. The bearing bars and the twisted square cross bars are cut to grating size before the cross bars are locked into the bearing bars at a pressure of 1000 kN and simultaneously electrically welded at 2500 KVA. into one unit. In combination with welded cross bars, non-attenuated bearing bars make for high torsion rigidity. Press welded gratings are banded with flat bars which, as a rule, will have the same cross section as the bearing bars. One special form of press welded Grating is offshore grating (O-SP-SS),



**Fp** Individual load in kN

**Fv** Uniformly distributed load in kN / m<sup>2</sup>

Conversion factor for kg into kN  
10 kN = 1 tone  
1kN = 100 kg

The values shown have been calculated for max admissible load rating on the basis of a load carrying area of 200 x 200 mm and a bearing bar spacing 30 mm. To avoid trip-up points, the bending under individual load may not exceed 4mm. Please note the colored nominated line

**Grating Type: SP203-30-100**

\* Support width = clearance between the rest

- No pedestrian access
- Pedestrian access
- Vehicle access: trucks up to 9 tones in overall weight
- Vehicle access: trucks up to 30 tones in overall weight
- Vehicle access: trucks up to 30 tones in overall weight

Usual Mesh Spacing	
Bearing Bar	Cross Bar
30	X 50
40	X 50
40	X 60
60	X 50

**Type of Grating Designation: SPXXX-YY-ZZZ**  
 SP = Press Welded Grating  
 XXX = bearing bar size, like 30x3mm  
 YY = bearing bar spacing, like 30mm c/c  
 ZZZ = cross bar spacing, like 100mm c/c

Available meshes: 12.5, 15, 30, 40 and 60mm for bearing bars >100mm for cross bars

### Mesh Width Clearance

Clear mesh width is calculated on the basis of the given mesh spacing and the thickness of the materials used

Example

Spacing of 30 x 50 / bearing bar 3mm / cross bar 6 x 6 mm = a clearance of 27 x 46/

Bearing bar 3 mm	Bearing bar 4 mm	Bearing bar 5 mm
20 x 3		
25 x 3	25 x 4	25 x 5
30 x 3	30 x 4	30 x 5
32 x 3	32 x 4	32 x 5
35 x 3	35 x 4	35 x 5
35 x 3	35 x 4	35 x 5
40 x 3	40 x 4	40 x 5
45 x 3	45 x 4	45 x 5
50 x 3	50 x 4	50 x 5
60 x 3	60 x 4	60 x 5
70 x 3	70 x 4	70 x 5

Standard Cross Bar 6 x 6 twisted for steel grating  
Standard Cross Bar 5mm dia for stainless steel grating

Support width [mm]	Bearing bars [ mm ]													
	25 x 3		30 x 3		35 x 3		40 x 3		50 x 3		60 x 3		70 x 3	
	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv
300	8.02	129.56	11.46	186.56	15.46	253.93	20.04	331.66	30.84	518.22	43.66	746.24	58.49	1015.7
400	5.35	72.88	7.64	104.94	10.31	142.84	13.36	186.56	20.56	291.50	29.11	419.76	38.99	571.34
500	4.01	46.64	5.73	67.16	7.73	91.41	10.02	119.40	15.42	186.56	21.83	268.65	29.24	365.66
600	3.21	32.39	4.58	46.64	6.19	63.48	8.02	82.92	12.34	129.56	17.46	186.56	23.39	253.93
700	2.67	23.80	3.82	34.27	5.15	46.64	6.68	60.92	10.28	9.518	14.55	137.06	19.50	186.56
800	2.29	17.93	3.27	26.24	4.42	35.71	5.73	46.64	8.81	72.88	12.47	104.94	16.71	142.84
900	2.00	12.60	2.87	20.73	3.87	28.21	5.01	36.85	7.71	57.58	10.92	82.92	14.62	112.86
1000	1.61	9.18	2.55	15.87	3.44	22.85	4.45	29.85	6.85	46.64	9.70	67.16	13.00	91.41
1100	1.33	6.90	2.27	11.92	3.09	18.89	4.01	24.67	6.17	38.55	8.73	55.51	11.70	75.55
1200	1.11	5.31	1.91	9.18	2.81	14.58	3.64	20.73	5.61	32.39	7.94	46.64	10.63	63.48
1300	0.95	4.18	1.62	7.22	2.55	11.47	3.34	17.12	5.14	27.60	7.28	39.74	9.75	54.09
1400	0.81	3.35	1.40	5.78	2.20	9.18	3.08	13.71	4.74	23.80	6.72	34.27	9.00	46.64
1500	0.71	2.72	1.21	4.70	1.91	7.47	2.83	11.14	4.41	20.73	6.24	29.85	8.36	40.63
1600	0.62	2.24	1.07	3.87	1.68	6.15	2.49	9.18	4.11	17.93	5.82	26.24	7.80	35.17
1700	0.55	1.87	0.94	3.23	1.48	5.13	2.20	7.66	3.86	14.95	5.46	23.24	7.31	31.63
1800	0.49	1.57	0.84	2.72	1.32	4.32	1.96	6.45	3.63	12.60	5.14	20.73	6.88	28.21
1900	0.44	1.34	0.75	2.31	1.19	3.67	1.76	5.48	3.38	10.71	4.85	18.51	6.50	25.32
2000	0.40	1.15	0.68	1.98	1.07	3.15	1.59	4.70	3.05	9.18	4.60	15.87	6.16	22.85

Support width [mm]	Bearing bars [ mm ]																									
	30 x 4		35 x 4		40 x 4		45 x 4		50 x 4		60 x 4		70 x 4		30 x 5		35 x 5		40 x 5		50 x 5		60 x 5		70 x 5	
	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv	Fp	Fv
300	15.28	248.75	20.62	338.57	26.73	442.22	33.57	559.68	41.12	690.96	58.21	994.99	77.98	1354.2	19.10	310.93	25.77	423.21	33.41	552.77	51.40	863.70	72.77	1243.7	97.48	1692.8
400	10.19	139.92	13.75	190.45	17.82	248.75	22.38	314.82	27.41	388.67	38.81	559.68	51.99	761.79	12.74	174.90	17.18	238.06	22.27	310.93	34.27	485.83	48.51	699.60	64.98	952.23
500	7.64	89.55	10.31	121.89	13.36	159.20	16.78	201.48	20.56	248.75	29.11	358.20	38.99	487.54	9.55	111.94	12.89	152.36	16.70	199.00	25.70	310.93	36.38	447.74	48.74	609.43
600	6.11	62.19	8.25	84.64	10.69	110.55	13.43	139.92	16.45	172.74	23.29	248.75	31.19	338.57	7.64	77.73	10.31	105.80	13.36	138.19	20.56	215.93	29.11	310.93	38.99	423.21
700	5.09	45.69	6.87	62.19	8.91	81.22	11.19	102.80	13.71	126.91	19.40	182.75	25.99	248.75	6.37	57.11	8.59	77.73	11.14	101.53	17.13	158.64	24.26	228.44	32.49	310.93
800	4.37	34.98	5.89	47.61	7.64	62.19	9.59	78.71	11.75	97.17	16.63	139.92	22.28	190.45	5.46	43.73	7.36	59.51	9.55	77.73	14.69	121.46	20.79	174.90	27.85	238.06
900	3.82	27.64	5.15	37.62	6.68	49.14	8.39	62.19	10.28	76.77	14.55	110.55	19.50	150.48	4.78	34.55	6.44	47.02	8.35	61.42	12.85	95.97	18.19	138.19	24.37	188.10
1000	3.40	21.16	4.58	30.47	5.94	39.80	7.46	50.37	9.14	62.19	12.94	89.55	17.33	121.89	4.25	26.44	5.73	38.09	7.42	49.75	11.42	77.73	16.17	111.94	21.66	152.36
1100	3.03	15.89	4.12	25.18	5.35	32.89	6.71	41.63	8.22	51.39	11.64	74.01	15.60	100.73	3.79	19.87	5.15	31.48	6.68	41.12	10.28	64.24	14.55	92.51	19.50	125.92
1200	2.54	12.24	3.75	19.44	4.86	27.64	6.10	34.98	7.48	43.19	10.58	62.19	14.18	84.64	3.18	15.30	4.69	24.30	6.07	34.55	9.35	53.98	13.23	77.73	17.72	105.80
1300	2.16	9.63	3.40	15.29	4.45	22.83	5.59	29.81	6.85	36.80	9.70	52.99	13.00	72.12	2.70	12.04	4.25	19.11	5.57	28.53	8.57	46.00	12.13	66.23	16.25	90.15
1400	1.86	7.71	2.93	12.24	4.11	18.28	5.16	25.70	6.33	31.73	8.96	45.69	12.00	62.19	2.33	9.64	3.66	15.30	5.14	22.84	7.91	39.66	11.20	57.11	15.00	77.73
1500	1.62	6.27	2.55	9.95	3.77	14.86	4.80	21.16	5.87	27.64	8.32	39.80	11.14	54.17	2.02	7.84	3.18	12.44	4.72	18.57	7.34	34.55	10.40	49.75	13.93	67.71
1600	1.42	5.17	2.24	8.20	3.31	12.24	4.48	17.43	5.48	23.91	7.76	34.98	10.40	47.61	1.78	6.46	2.80	10.25	4.14	15.30	6.85	29.89	9.70	43.73	13.00	59.51
1700	1.26	4.31	1.98	6.84	2.93	10.21	4.14	14.53	5.14	19.94	7.28	30.99	9.75	42.18	1.57	5.38	2.47	8.55	3.67	12.76	6.43	24.92	9.10	38.73	12.18	52.72
1800	1.12	3.63	1.76	5.76	2.61	8.60	3.69	12.24	4.84	16.79	6.85	27.64	9.17	37.62	1.40	4.53	2.21	7.20	3.27	10.75	6.05	20.99	8.56	34.55	11.47	47.02
1900	1.01	3.08	1.58	4.90	2.34	7.31	3.31	10.41	4.51	14.28	6.47	24.68	8.66	33.76	1.26	3.86	1.98	6.12	2.93	9.14	5.64	17.85	8.09	30.84	10.83	42.20
2000	0.91	2.64	1.43	4.20	2.12	6.27	2.99	8.93	4.07	12.24	6.13	21.16	8.21	30.47	1.13	3.31	1.78	5.25	2.64	7.84	5.08	15.30	7.66	26.44	10.26	38.09

## Anti-skid Grating

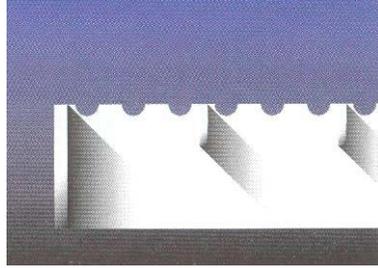
Gratings are fairly anti-slip as it is. However, they can be made even safer particularly in areas where there is a risk of oil and grease spills or when conditions are icy. Anti-skid gratings So much safer, step by step.

### **P type anti-skid = R12**

Both bearing bars and cross bars notched

### **P type anti-skid = R11**

Only the bearing bars or the cross bars notched

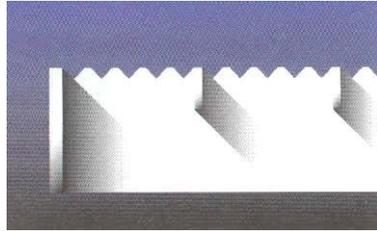


### **P type anti-skid = R12**

Bearing bars and cross bars notched

### **P type anti-skid = R11**

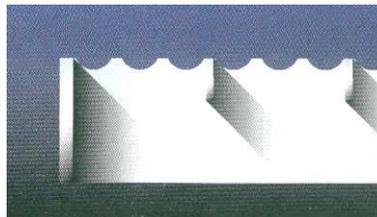
Only the bearing bars or the cross bars notched



### **P type super anti-skid = R12**

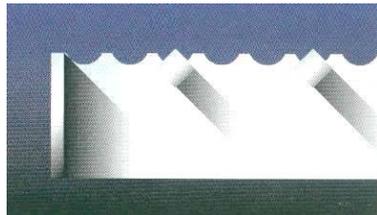
in stainless steel = R13

Bearing bars, cross bars and banding bars notched

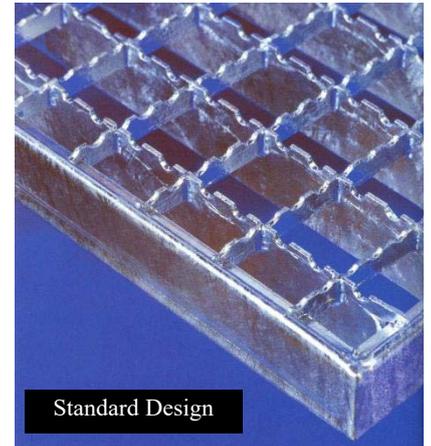


### **SP type anti-skid = R11**

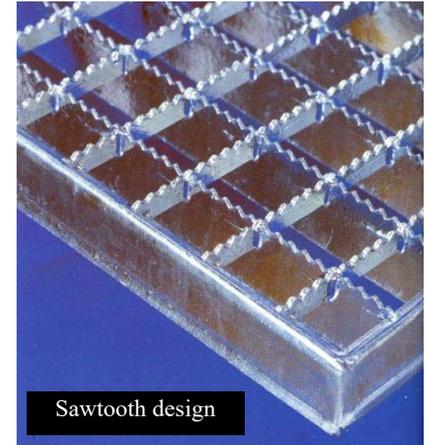
Bearing bars notched Cross bars twisted



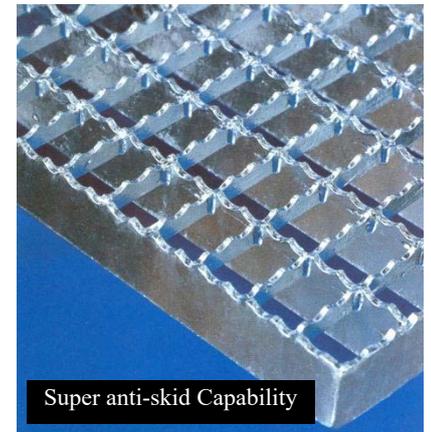
**MEISE**Grate



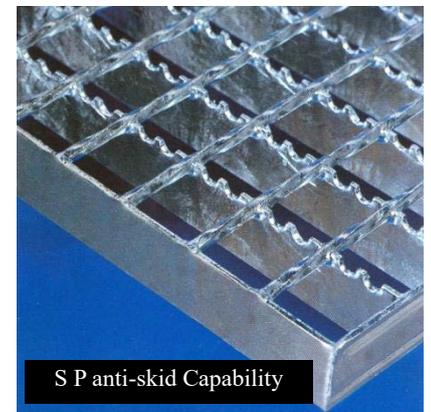
Standard Design



Sawtooth design



Super anti-skid Capability



S P anti-skid Capability

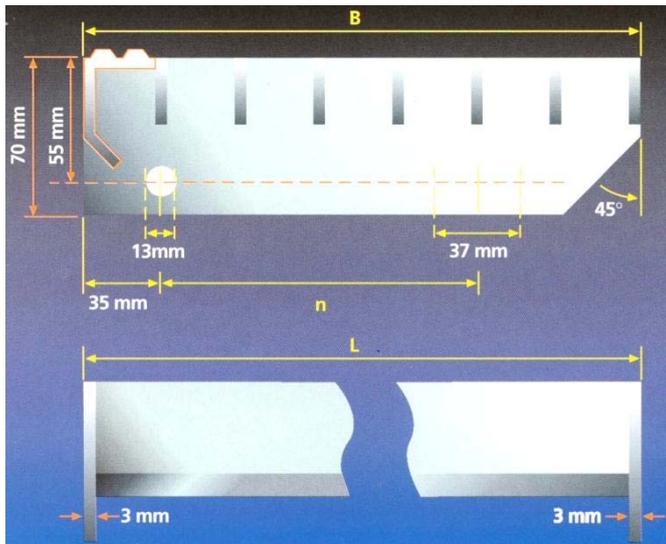
Stairtreads are produced the same way as press locked gratings and press welded gratings.

They are banded on the side with flat bar which has been drilled for fixing to the staircase installation.

As a rule, the demands made on stairtreads in terms of anti-slip capability are higher than on gratings. Which is why MeiseGrate treads are produced with a perforated safety nosing. This is not only safer for the people using the stairs; it also contributes generally to a more stable structure.

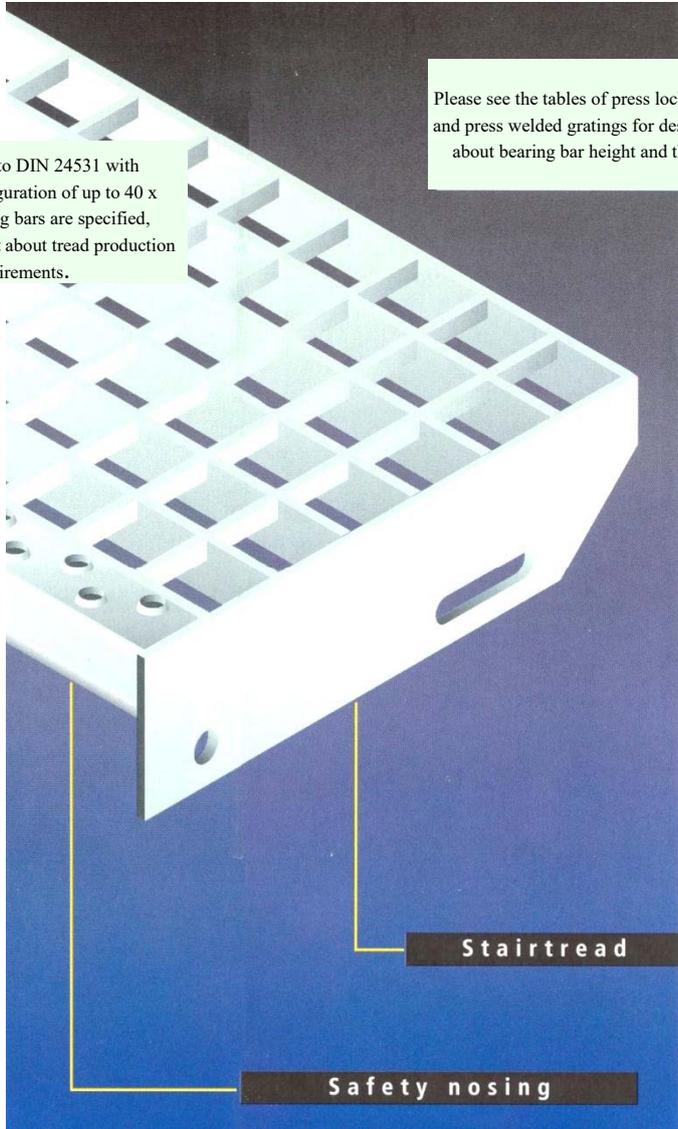
Needless to say, MeiseGrate stairtreads comply with DIN 24531 and can be supplied in either steel, stainless steel or aluminium.

Stairtread width n-measurement	
up to 205 mm	90 mm
up to 240 mm	120 mm
up to 294 mm	150 mm
from 295 mm	180 mm



Stairtreads are to DIN 24531 with bearing bar configuration of up to 40 x 3. If other bearing bars are specified, we need to consult about tread production requirements.

Please see the tables of press locked gratings and press welded gratings for design details about bearing bar height and thickness



Used in the construction of high rack systems, grating based shelves have decisive advantages compared to other shelves.

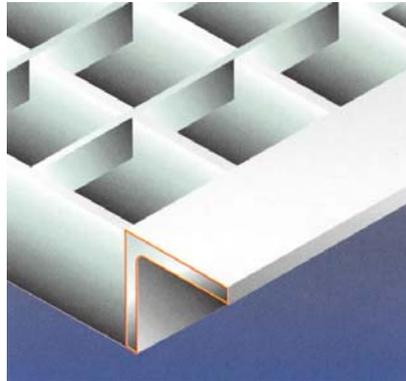
Apart from the well-known high statical values of grating (as measured against input material) one great benefit is that you can tell what is on the shelves from underneath.

Also highly significant is the fact that the grating lets water through in the event of a fire starting and the sprinkler system triggering.

When it comes to producing the shelves, we suggest that angle collars or special notchings be specified: they are useful as extra-high banding and stop things falling off in the deposit area.

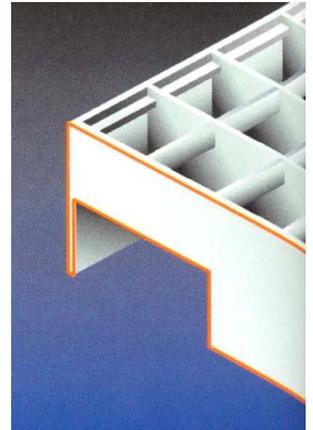
### Angle collar

One or several sided angles welded on to the grating. Angle height should be at least that of bearing bar height

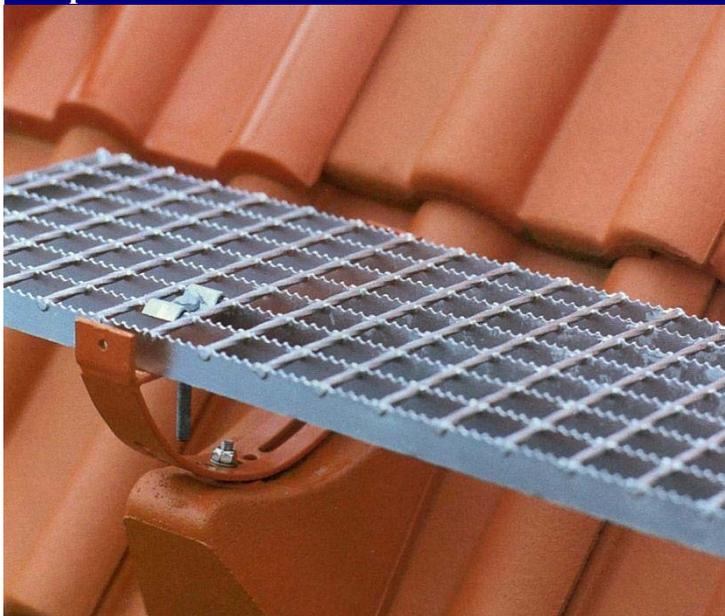


### Notching

Special notchings with extra-high banding in the deposit area.



## Special Forms



### Roof platform grating

Chimney sweeps are traditionally held to bring good luck. So, to prevent them having an unfortunate accident at work, MeiseGrate can supply special roof platform grating which can even be used under wintry conditions.

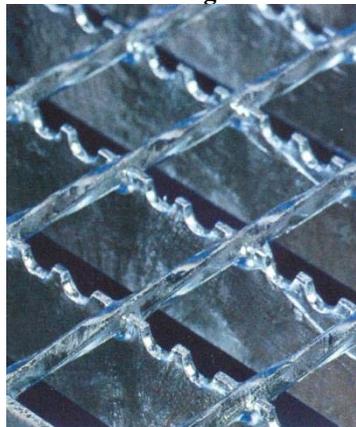
We usually advise customers in this particular case not to cut corners and to select grating in the anti-skid design.

Roof platform grating is also available in the press locked and press welded designs

Bearing bar 25 x 2 mm  
Mesh spacing 30 x 30 mm  
Flat bar banding  
Cross bar length 250 mm  
Bearing bar length

400  
500  
600  
800  
1000  
1200  
1500  
1600  
1750  
1800  
2000  
2500  
3000

### Anti-skid design



**Offshore gratings (O-SP-SS)**

As its name suggests, offshore grating was originally developed for use on offshore oil rigs.

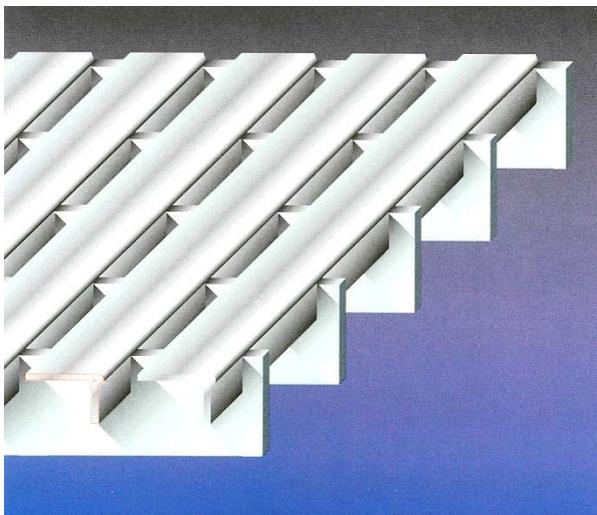
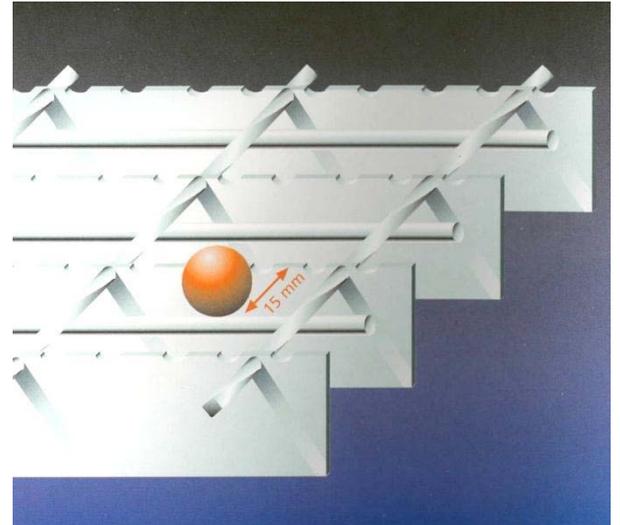
Basically a press welded grating, it is strengthened by round bars welded beneath the twisted cross bars and in the same direction as the bearing bars. See the photo to the right.

**Mesh spacing**

38.28 x 101.6 mm with round bar welded on beneath so that a test ball 15 mm in diameter cannot fall through.

**Bearing bar measurement**

20 x 2 mm up to 60 x 5 mm



**Barefoot gratings**

Ok, we admit it. Only a fakir would want to walk barefoot on most gratings.

The thing is, though, there are shoeless areas where grating can come in pretty handy -at swimming pools, for instance. Reason enough for MeiseGrate to develop a grating which is even pleasant on the naked foot!

**Bearing bar measurement**

30 x 2 mm up to 4.0 x 3 mm

The cross bar is flat-pressed T-shaped banding. The clearance between these treads is 10 mm.



**Tree gratings**

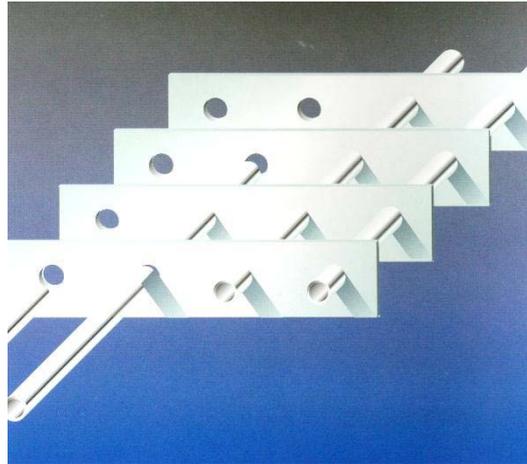
The special MeiseGrate tree gratings are basically press locked gratings.

Tree gratings can be seamlessly built into pavements and thus increase to pedestrians. These gratings enable trees to be given a superior maintenance, ventilation and watering service. They even protect the tree roots.

**Finned gratings**

Finned gratings are both decorative and practical. It is why they are suitable for all kinds of purposes. As a rule, they are used as shaft covers for under floor convection heating and as overflow channels at swimming pools.

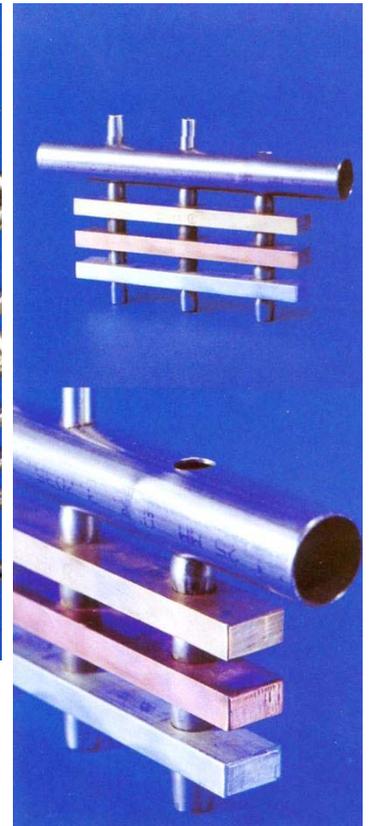
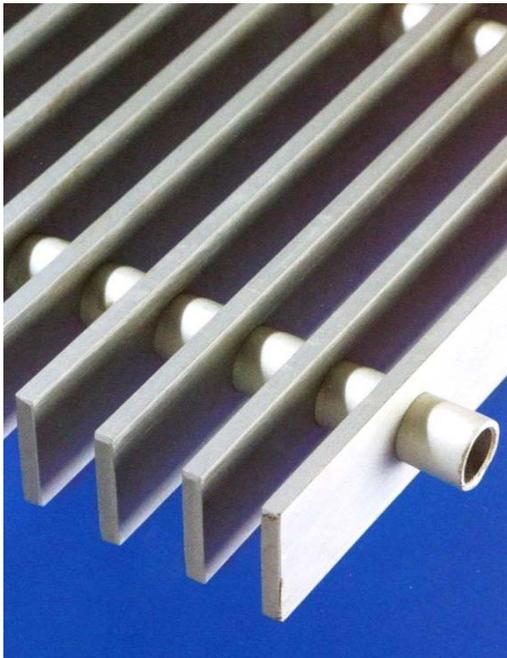
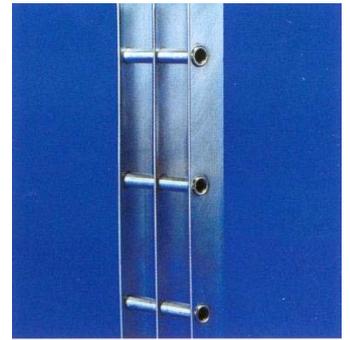
Finned gratings can be supplied in a variety of material, profile and colour.



Cross bar tubing with a diameter of 10 or 15 mm

Cross bar spacing 50, 100, 150, 200... mm

Bearing bar spacing	Bearing bar thickness
21	2-5 mm
22	2-5 mm
23	2-5 mm
28	2-5 mm
32	2-5 mm
33.3	2-5 mm
43	2-5 mm
and multiples	



A further quality feature with MeiseGrate gratings is their long service life which is partly the result of meticulous surface treatment during production.

The various possibilities –from the purely expedient to the high-grade-underpin the unique aesthetic appearance of grating applications.

### Standard Materials

Stainless steel: 316, 304  
Aluminum: Alloy Almg 1 H14  
Steel Grade: S235 or Q235A



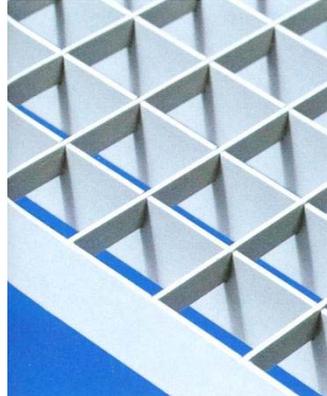
### Hot dip galvanizing

MeiseGrate steel gratings are routinely hot dip galvanised to DIN EN ISO 1461. Due to the 99.9 % purity of the zinc coating, no zinc peels off under normal mechanical load conditions.



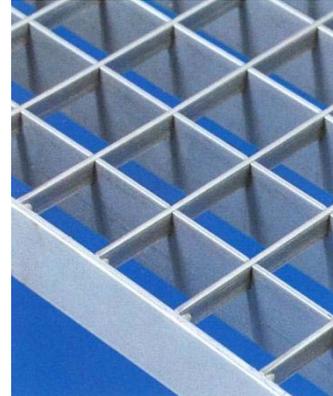
### Baking varnishing

First immersion degreased, then primary coated and painted to 2-KPUR. Available in all RAL colours. The drying process last for an hour at 60 - 80°C



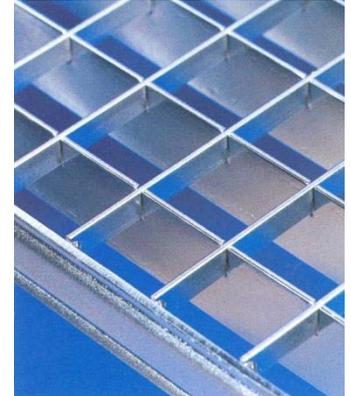
### Electrolytic oxidization (aluminium)

Here the metal is degreased, pickled and washed in tanks before being electrolytically oxidised in an anodic bath to E6EV1. Following this process, the metal can be dyed in various colours as per Eurus.



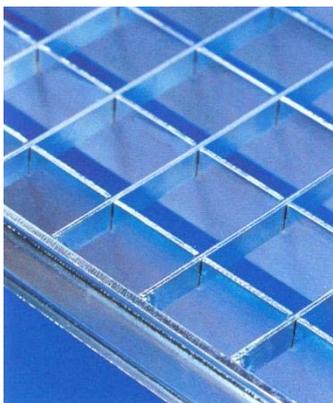
### Pickling (stainless steel)

The passive layer which processing removes can be restored by pickling the metal in a step tank and then treating it with a passivating solution and VE water.



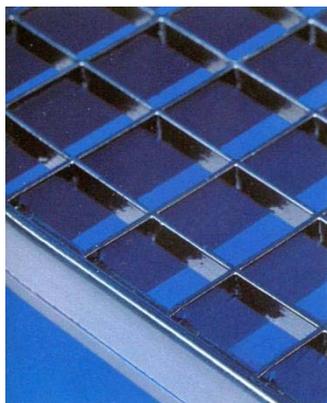
### Electro-chemical polishing (stainless steel)

Carried out by means of an electrolyte bath to produce a homogeneously polished surface with a dirt repelling effect.



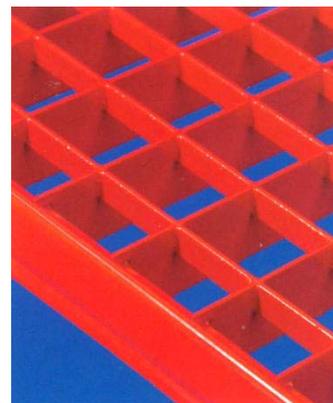
### Electrolytic galvanising

The material is degreased and pickled in tanks and galvanised in electrolyte baths.



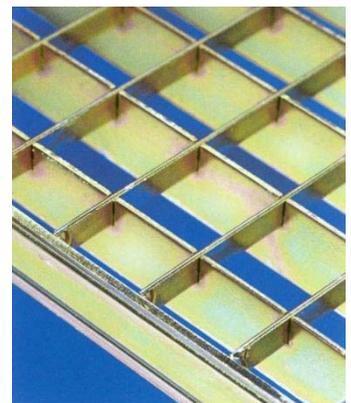
### Rickert dip process

A process which is a good qualitative development on bitumination.



### Powder coating

Depending on the various materials, the material is degreased, pickled and chromated in tanks. Then the powder is sprayed on automatically and baked on at a temperature of around 170°C. Coat thickness 60-80 my.



### Chromating (steel)

After electrolytic galvanising, the chromating process takes place via immersion. The material is paintable in various colours.

## Staircase Installations

**MEISE**Grate

The manufacture of steel staircase requires a high degree of flexibility and craftsmanship. And so we integrate these factors with a cost efficient serial product to offer you the customer solution which are at once attractive and affordable.

We consider a solution successful only if it meets current regulation and if contributes significantly to the overall aesthetic effect.

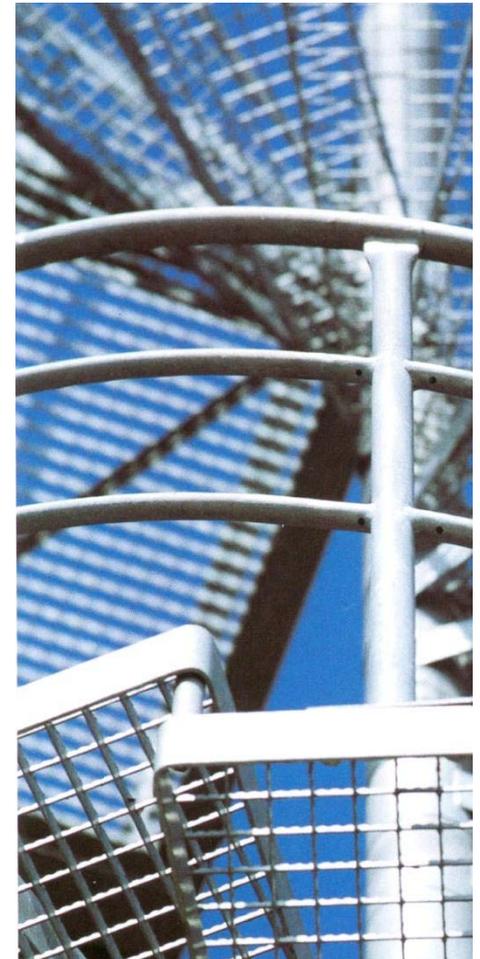
Spiral staircase



Winding staircase



Straight flight stair case



Staircase users are probably more interested in the quality of the steps that, say, the engineering skills that went into the manufacture.

Outdoors, it is advisable to use materials which can withstand variable weather conditions and provide the required anti-slip protection whether wet, icy or snowy.

Indoors, the designer or the developer has more opportunity to experiment with different designs and materials – all depending on taste and the architectural concept.

Example 1: Grating 30 x 30 in the anti-skid design galvanised or stainless steel.

Example 2: Durbar galvanised or stainless steel.

In addition to step tread design, the railing is important for the general appearance as well. The examples shown on the right are firm favourites with our customers. However, they are by no means the only designs available.

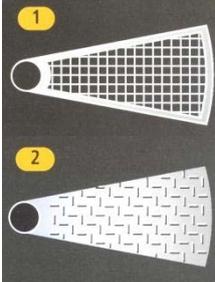
For example:

A1) Handrail and posts made of steel tubing 8 mm in diameter, the binding bar of 30 x 8 mm flat bar and the rods of steel round bar 12 mm in diameter,

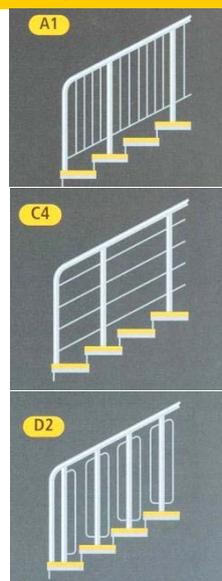
C4) Binding bar banister with handrail and posts made of steel tubing 38 mm in diameter with the binding bars made of steel tubing 26 mm in diameter or round bar 12 mm in diameter,

D2) Handrail made of steel tubing 38 mm in diameter, the posts as a design element out of steel tubing 38 mm in diameter and round bar 12 mm in diameter,

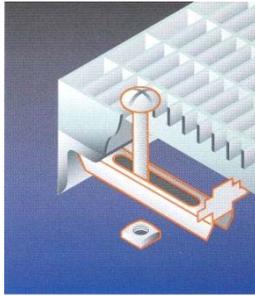
Examples of steps



Examples of banisters

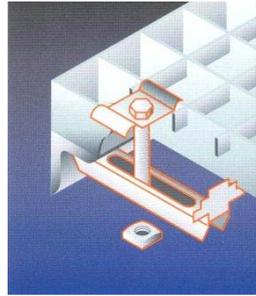


Here we present the most frequently used fastener and safety elements, all of which can be supplied hot dip galvanized and in stainless steel



**Standard fastener**  
for Mesh width 30 x 10mm

- Cross Head Screw M8
- Clamp lower part
- Square nut



**Standard fastener**

- Clip upper part.
- Clamp lower part
- Hexagon screw M8
- Square nut



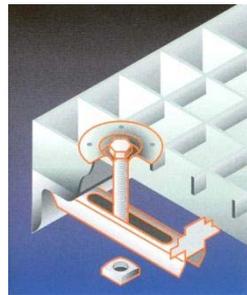
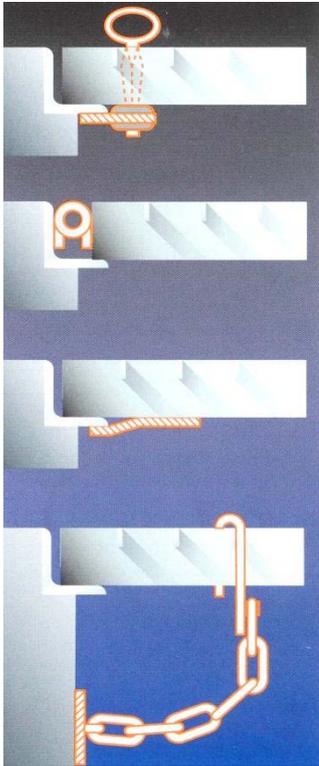
**Standard fastener**

- Locking clip upper part
- Clamp lower part
- Hexagon screw M8
- Square nut



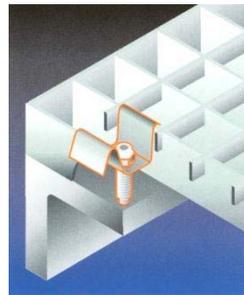
**Header bolt fastener**

- Disc upper part and threaded sleeve
- Threaded screw M8



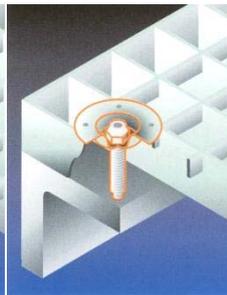
**Standard fastener**

- Disc upper part
- Clamp lower part
- Hexagon screw M8
- Square nut



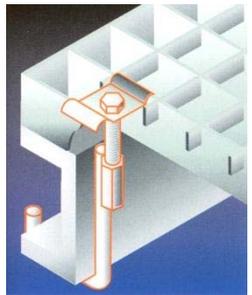
**Welded screw fastener**

- Deep drawn clip upper part
- Chrome threaded screw M8
- Self-locking hexagon screw



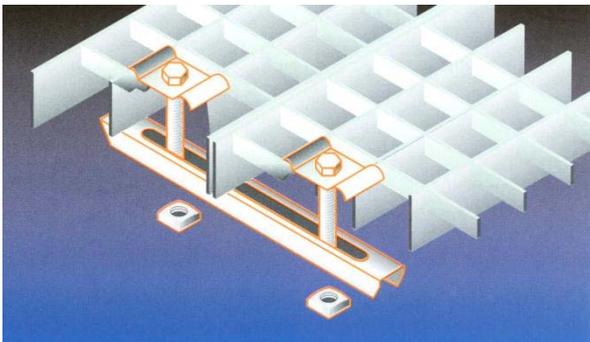
**Welded screw fastener**

- Deep drawn disc upper part
- Chrome threaded screw M8
- Self-locking hexagon screw



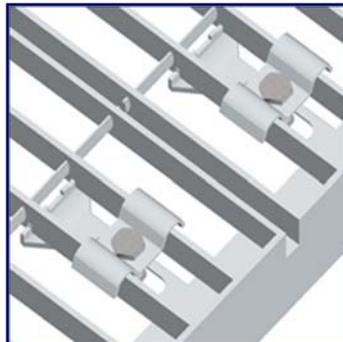
**Hook fastener**

- Clip or disc upper part
- Hook made of bent round bar steel with sleeve type nut welded on
- Hexagon screw M8



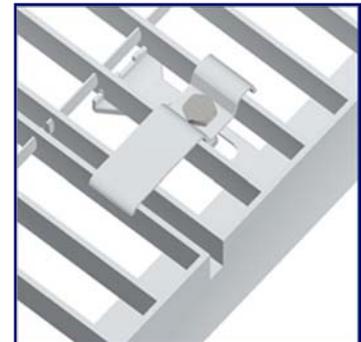
**Double Clamp Fastener**  
To avoid trip-up edges with the grating projects

- Two clip or disc upper parts
- One clamp lower part
- Two hexagon screw M8
- Two square nuts



**Clip #40**

- Top clip
- Bottom Part
- Outer or Inner Hexagon Bolt M8



**Clip #87 or #107**  
For two adjacent Panels

- Top clip
- Bottom Part
- Outer or Inner Hexagon Bolt M8

Remark: clip #40, #87 and #107 are from MeiseGrate China. Others are from MeiseGrate