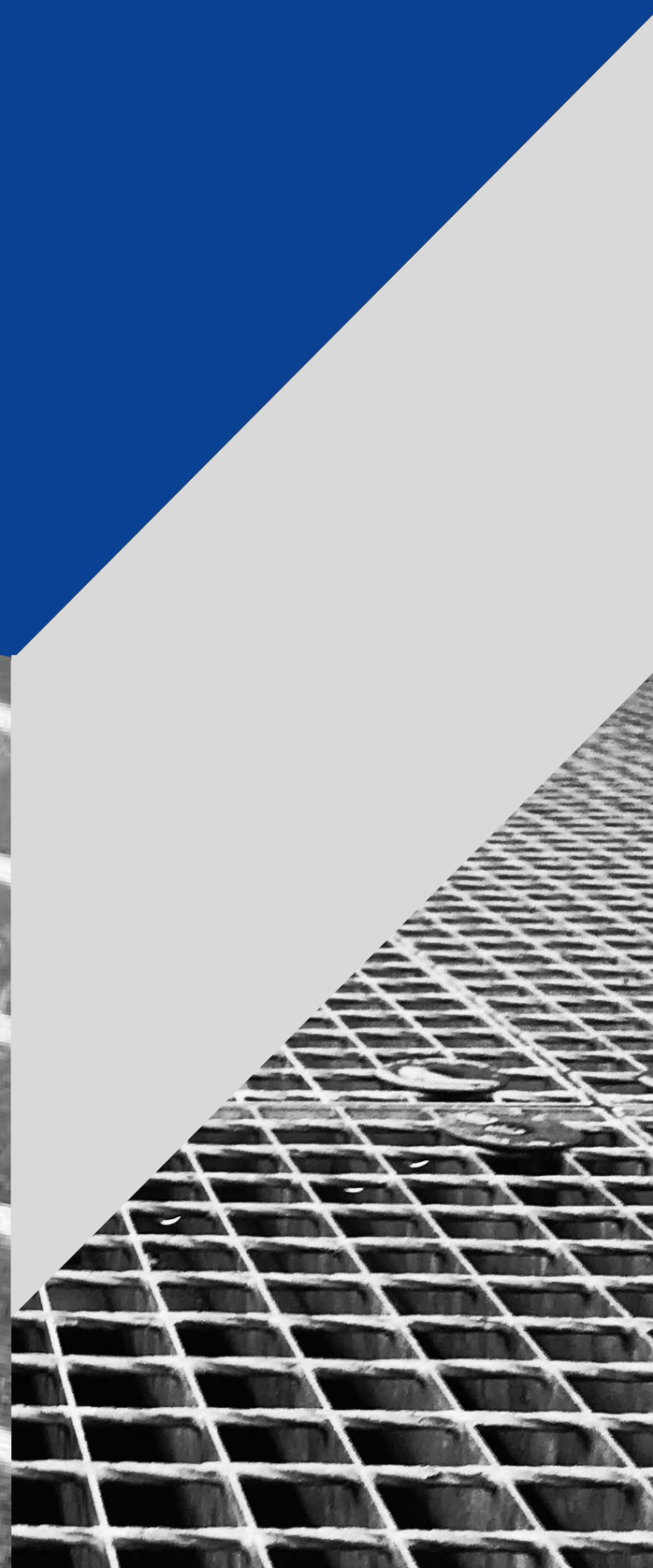
SIAM STEEL GRATINGS

The largest manufacturer of high-quality steel grating products in Thailand

Strength
Innovation
Sustainability

CONTENT



INTRODUCTION

Siam Steel Gratings Co., Ltd. (**SSG**) was founded in June 1988, with the name Thai Steel Grating Co., Ltd. and began the operation in January 1989. In September 1994, Thai Steel Gratings changed its name to Siam Steel Gratings Co., Ltd. as it is well-known till today.

SSG is the leading manufacturer of open grid flooring whose products are used throughout various industrial fields. Its gratings offer the unique advantage of flexibility and control. In addition, having Siam Steel Galvanizing located nearby **SSG**'s factory, it brings the opportunity for **SSG** to be able to offer an unrivaled service and control, from raw material through to finished products.

SSG can offer the complete package in industrial metal flooring installation, ranging from design and manufacturing through final installation and after-sales service. Moreover, our technical department is available to assist on any flooring problems and questions a customer may have.

SSG has been certified the ISO 9002 in February 2000.

OUR CERTIFICATES

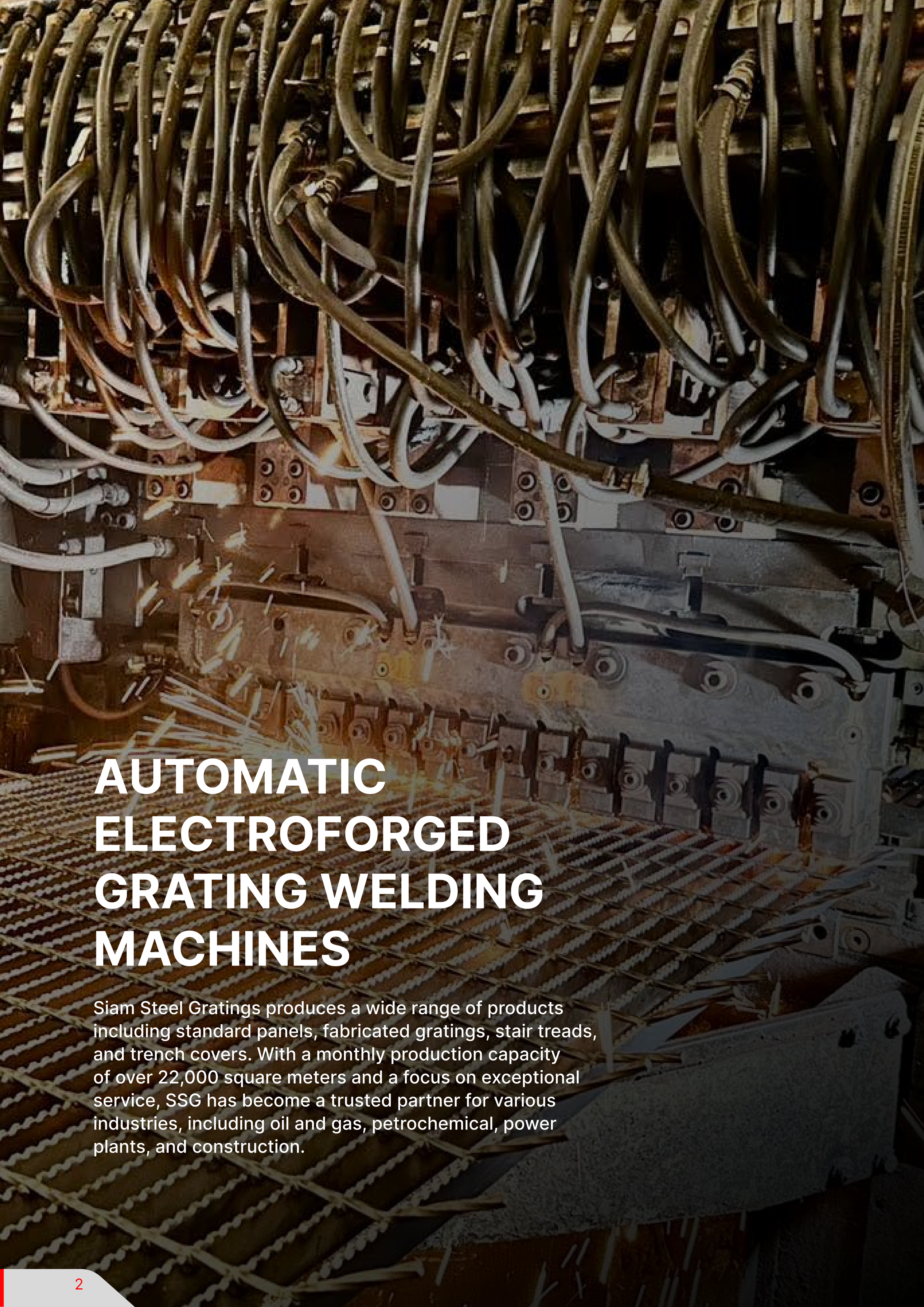
Made in Thailand

SYSTEM CERTIFICATION ISO 9001 SGS — SGS
THAILAND — NSC-TISI-TIS 17021-1 QMS 001

Cert. No. TH00/2393

SYSTEM CERTIFICATION ISO 9001 SGS — UKAS MANAGEMENT SYSTEMS 0005

Cert. No. TH00/2392



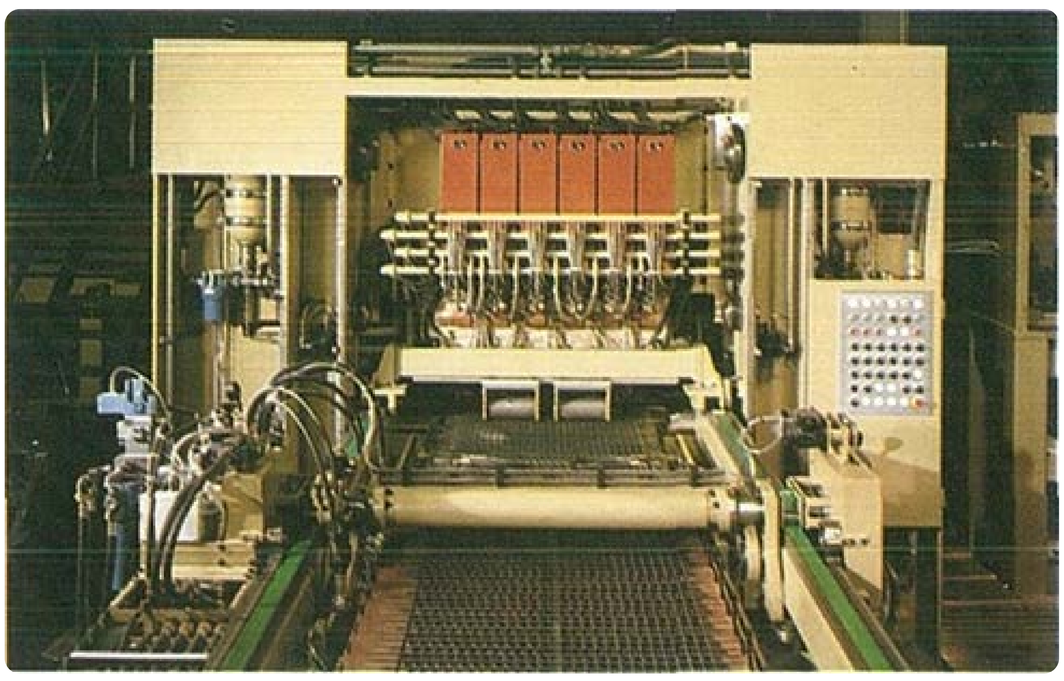
AUTOMATIC ELECTROFORGED GRATING WELDING MACHINES

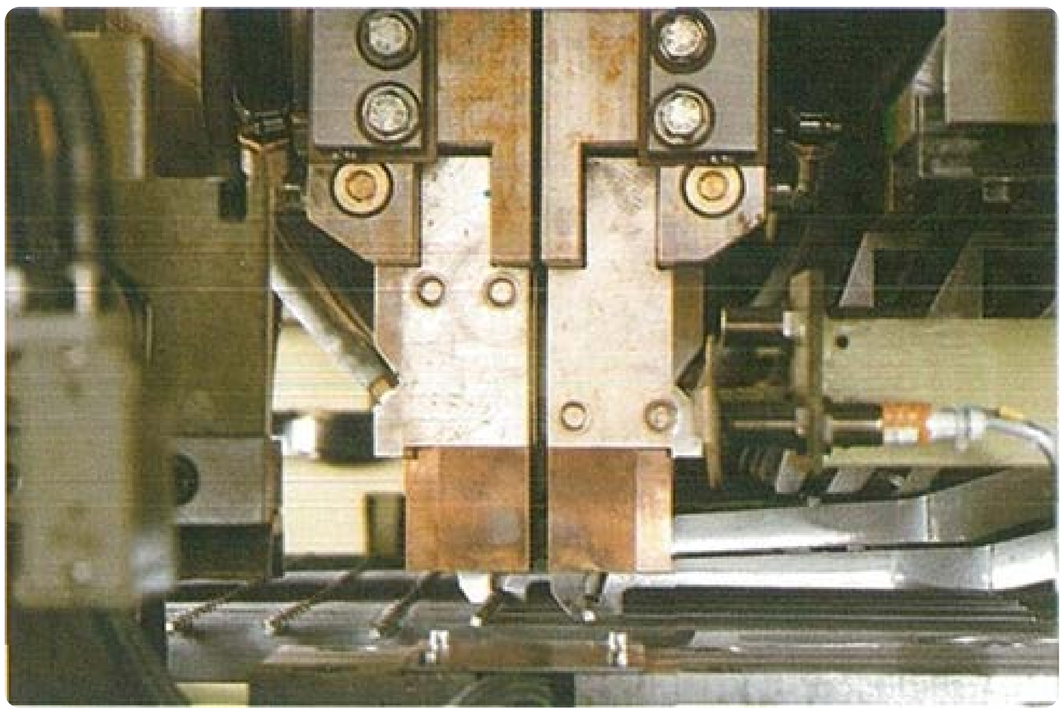
Siam Steel Gratings produces a wide range of products including standard panels, fabricated gratings, stair treads, and trench covers. With a monthly production capacity of over 22,000 square meters and a focus on exceptional service, SSG has become a trusted partner for various industries, including oil and gas, petrochemical, power plants, and construction.

GRATINGS

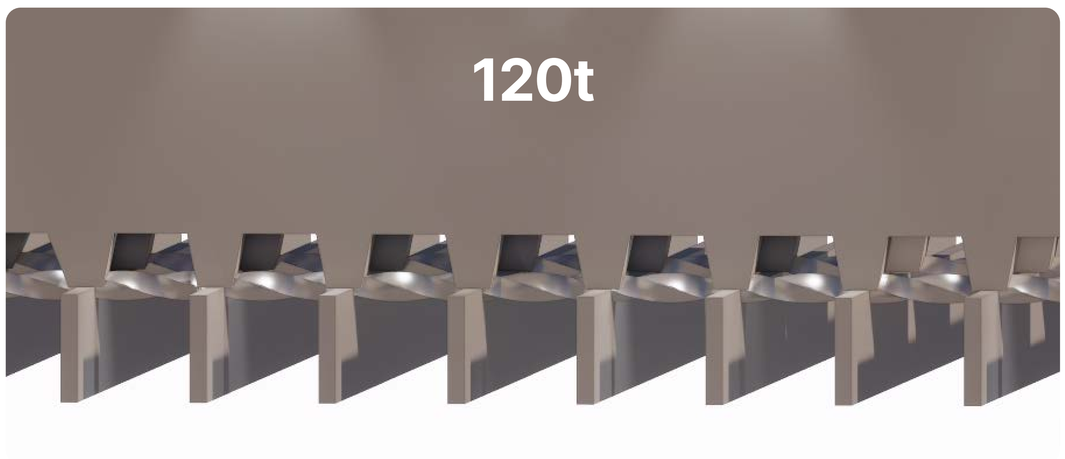
DESCRIPTION

SSG's gratings are manufactured by a precise, high-speed, computerized control equipment that combines intense hydraulic pressure (120 tons) with a powerful electric current (2500 KVA) to electro-forge the cross bars and bearing bars into a single rigid standard panel. This one piece construction not only eliminates cracks or open joints that might harbor moisture or other corrosive materials but also allows shaping to a great extent without compromising the rigidity and strength of the metals. The square twisted steel cross bars of **SSG's** gratings provide excellent traction, walking surface, and increased load-bearing ability. **SSG's** electro-forged machine has the flexibility and capability of welding a wide range of bearing bars and cross bar sizes.





2500k VA



AVAILABILITY

SSG's gratings are available in standard panel form, generally six meters long and nominally one meter wide. Other sizes are also available upon request. Alternatively, **SSG's** gratings can be fabricated to any shape and size to meet customer's requirements.

STEEL TYPE

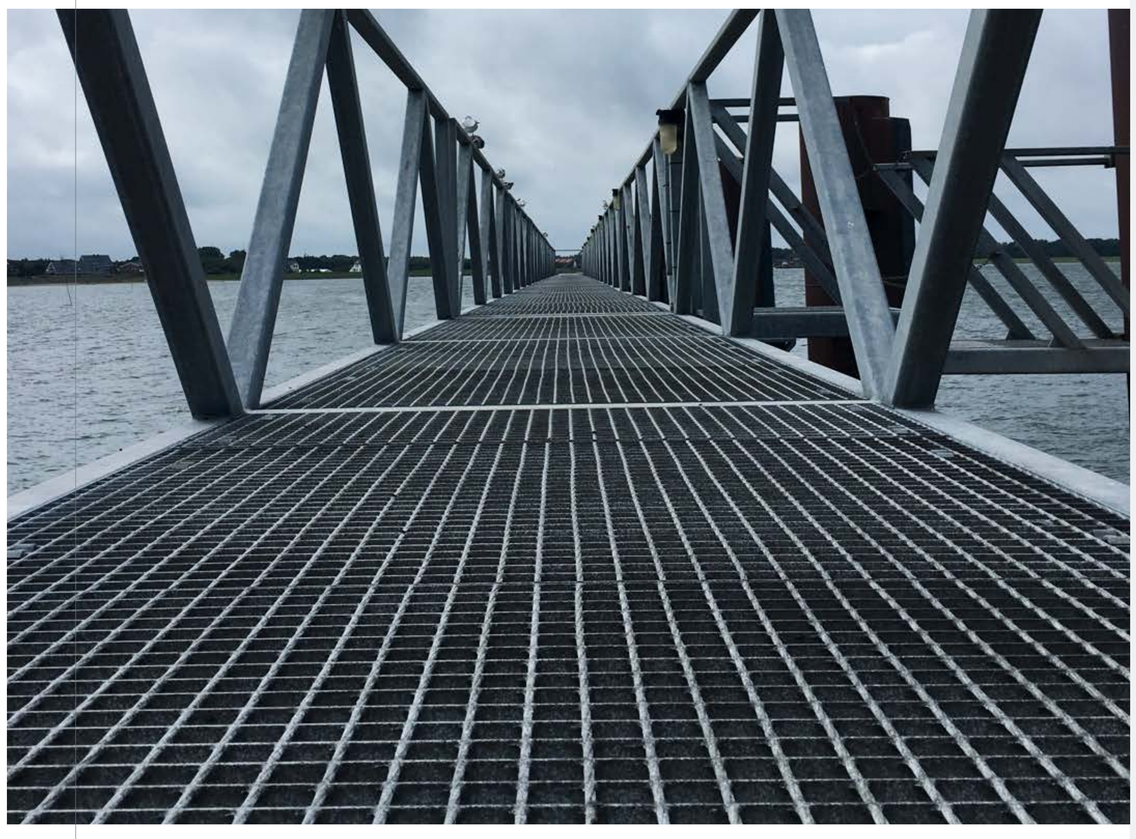
SSG's gratings are manufactured from a special fully-filled steel that meets the requirements of good weldability and high load-bearing capacity. This material is also especially suited for galvanization, allowing the galvanized zinc to penetrate easily and distribute uniformly throughout the gratings.

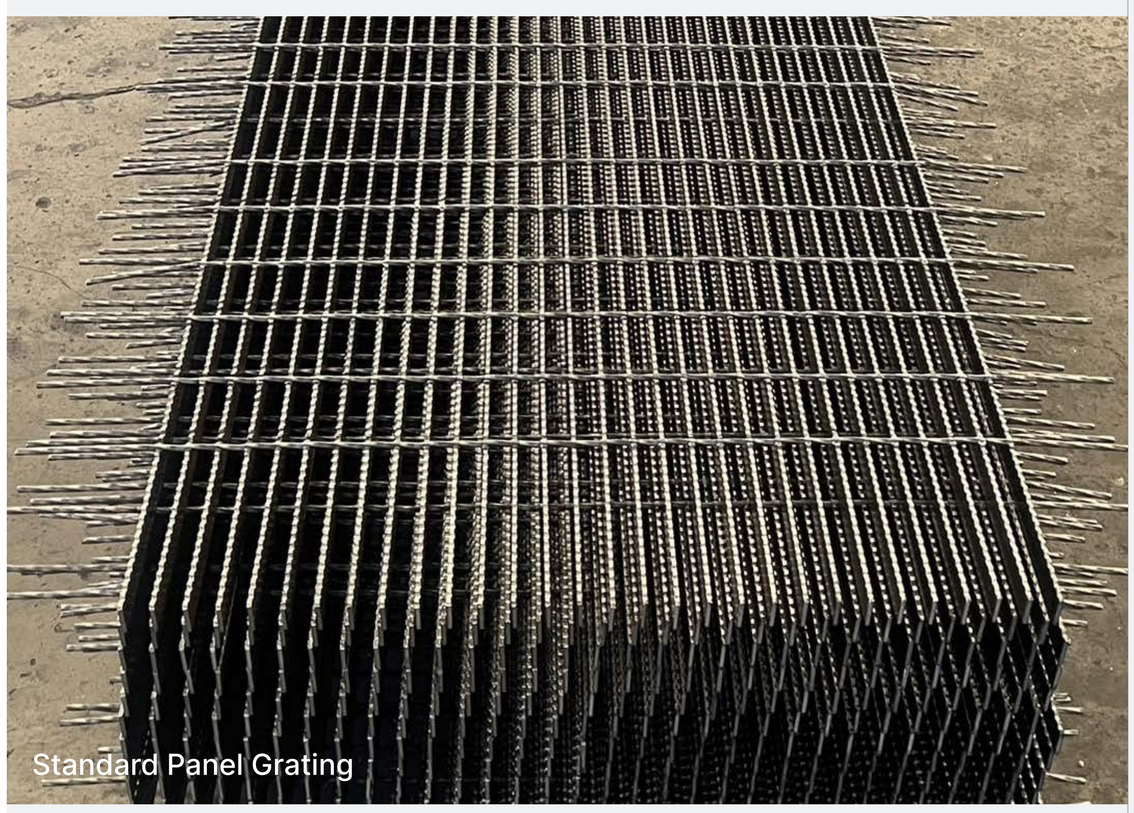
FINISHES

The following finishes are available:

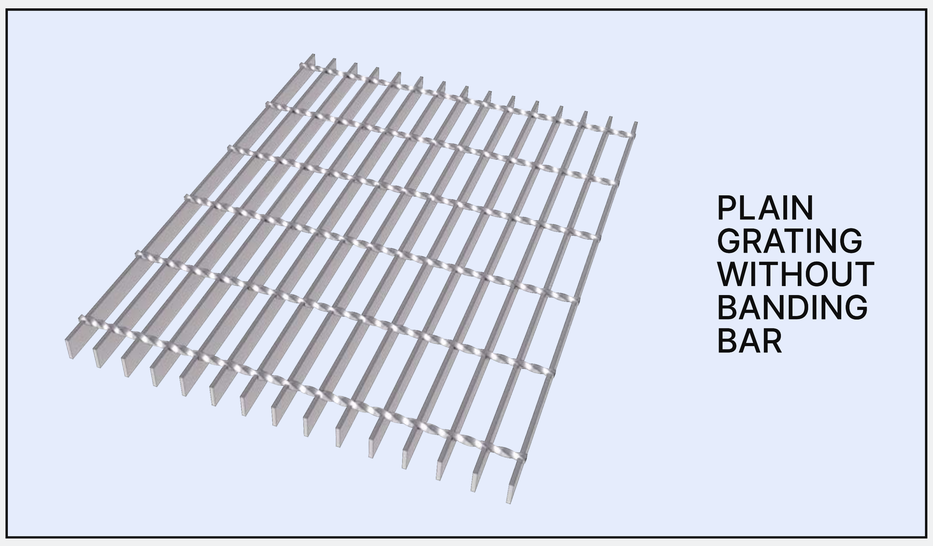
Self Color: This provides quicker deliveries to customers who fabricate their own flooring.

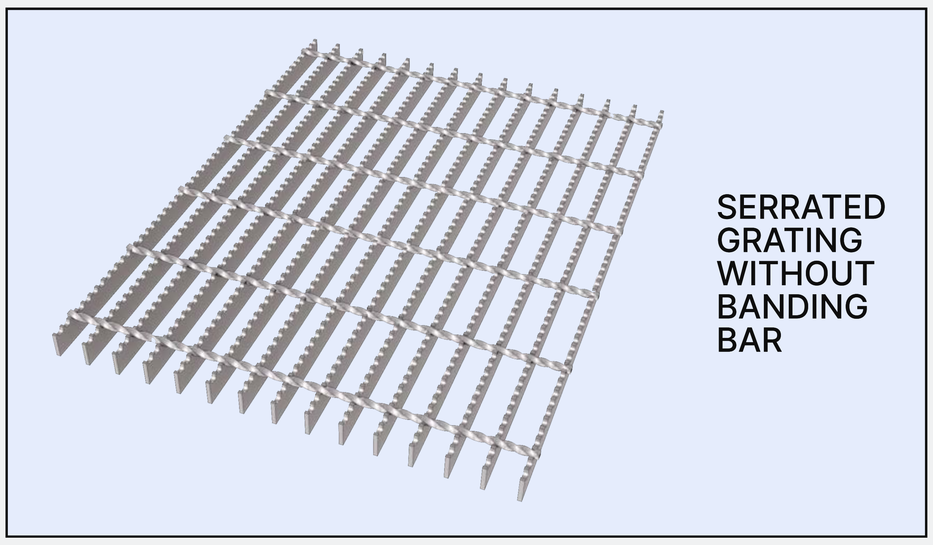
Galvanized: For corrosive and damp environments, gratings are galvanized to BS729, providing a minimum average zinc coating of 610 g/m² for sections 11 mm and above, and 460 g/m² for sections below 5 mm. Gratings can also be galvanized to conform with ASTM A123, providing a minimum coating of 610 g/m² for sections 5 mm and above, and 550 g/m² for sections below 5 mm.





Standard Panel Grating





CLASSIFICATION

SSG's gratings can be classified into two types according to the appearance of bearing bars. These two types of gratings are Plain-Bar type and Serrated-Bar type. The serrated-bar type has the ability to reduce slipping in offshore, oily, or icy conditions and will greatly improve performance for these types of industries. Additionally, both of these types of gratings can be supplied with banding bars or without banding bars.

DESIGNATION

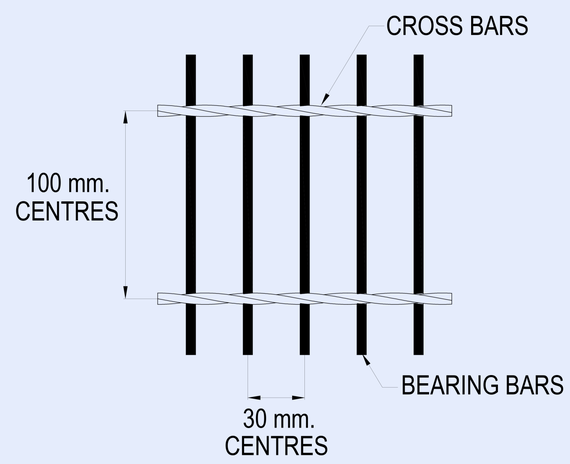
Each of **SSG's** gratings is coded for easy identification, as shown in the following example.

S	A	255	/	30

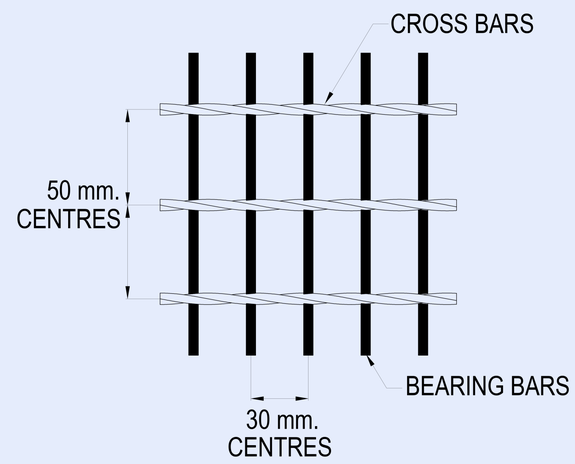
- 30 — Bearing Bar Pitch: 30 mm.
- 255 — Bearing Bar Size: 25 X 5 mm.
- A — Cross Bar Pitch: A = 100 mm. B = 50 mm.
- S — Brand Identification For SSG

BAR ARRANGEMENT

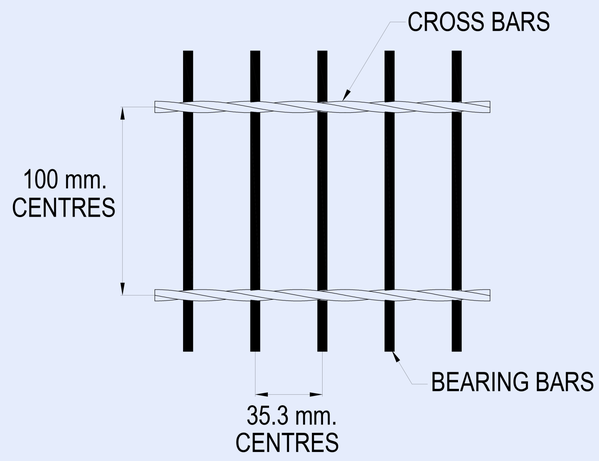
The **SSG's** gratings shown below with the six standard types of arrangement that the market preferred have been developed to comply with worldwide application and safety requirements. This will give our customers the opportunity to choose the type of flooring to matches their loading requirements as closely as possible. Other bar arrangements may be available depending on the quantity required, and our sales office should be contacted for further information.



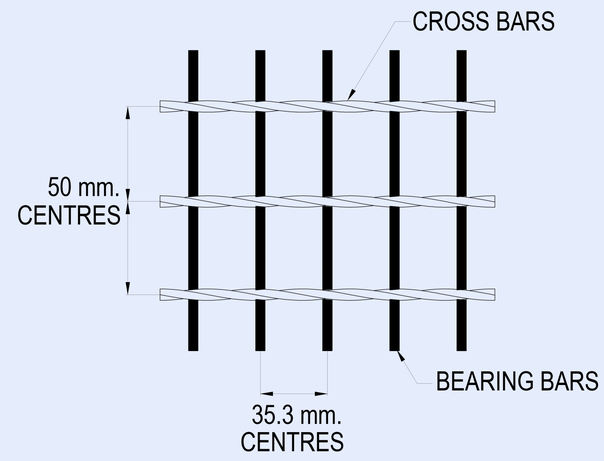
SA - - - / 30



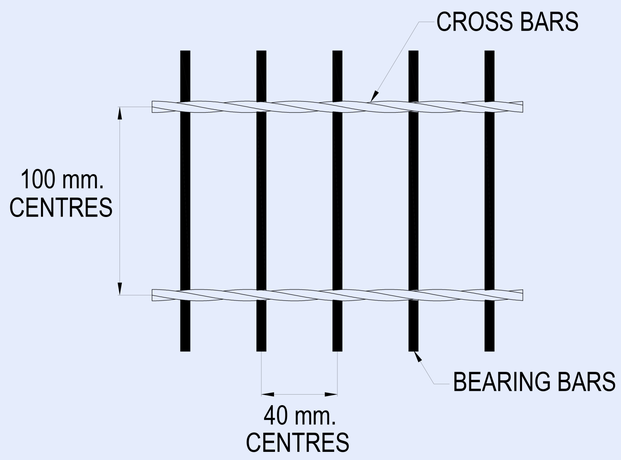
SB - - - / 30



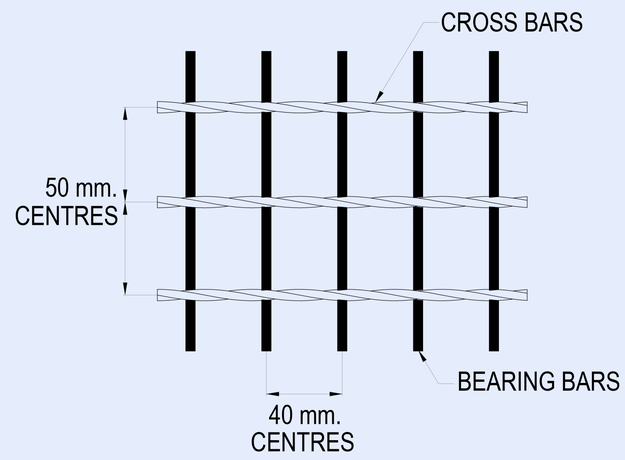
SA - - - / 35.3



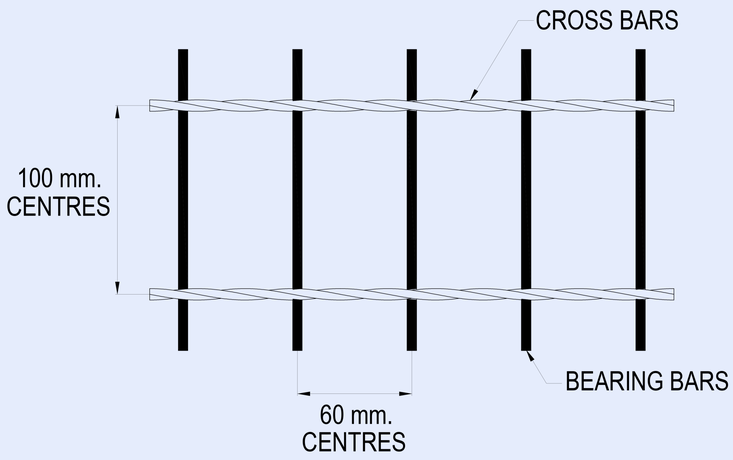
SB - - - / 35.3



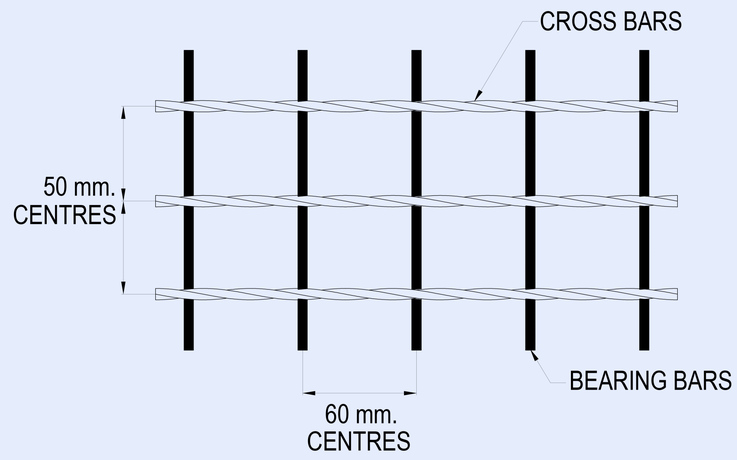
SA - - - / 40



SB - - - / 40



SA - - - / 60



SB - - - / 60

HOW TO ORDER

As a general guide for ordering gratings and stair treads, please specify:

1. Grating Code, example: SA 255/40
2. Bearing bar type, example: Plain or Serrated.
3. Size of banding bars if banding bar is required. Non-standard welding on banding bar must be noted.
4. Quantity and size of panels required. supply drawings (if available) showing:

   4.1 All dimensions

   4.2 Bearing bar direction

   4.3 Section size and location of support steel

   4.4 Location and size of cutouts and removable areas

   4.5 Location and size of kickplate, nosing, and splices at penetrations
5. Finish, example: Self Colour or Galvanized
6. Type of fixing clips needed. Clips will be provided on the basis of a minimum of four sets per panel.
7. For treads, specify the type required, grating type, quantity, dimension and finishing.

SAFE LOAD AND DEFLECTION TABLES

The loading data in the following tables show that for the three categories of load shown below, deflection will be limited to 10 mm. or 1/200th of the span, whichever is the lesser. The maximum clear span allowed

For each of the three categories shown in the pedestrian loading column on the left of each load table (see example).

Use of Gratings	U.D.L.	Use of Gratings	U.D.L.	Use of Gratings	U.D.L.
a. Light Duty (Access Limited to oneperson)	3.0 KN/M²	b. General Duty (Regular two-way pedestrian traffic)	5.0 KN/M²	c. Heavy Duty (High density pedestrian traffic)	7.5 KN/M²

EXAMPLE

To find the most economical grating to carry a walking load of 5.0 KN/M² over a 1500 mm. clear span:

1. Select the 30 mm. pitch load table unless otherwise specified.
2. Read off the 1500 mm. clear span at top of table and follow the column down the page until the heavy continuous line is to the right of that column.
3. Follow the column horizontally to the left to determine the bearing section required (i.e., 25 mm. x 5 mm. or 32 mm. x 3 mm.).
4. Check the weights for 25 mm. x 5 mm. and 32 mm. x 3 mm. bearing bars. 32 mm. x 3 mm. is lighter and is therefore the most economical size to carry the required loading.

LOAD & DEFLECTION TABLE
BEARING BAR AT 30 mm. PITCH

TYPE	Bearing Bar Section in mm.	Cross Bar Pitch	Nom. Weight kg/m²	Serration Factor			CLEAR SPAN (mm.)															
				Load.	Def.		600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000
SA 605/30	60×5	100	82.9	0.95	1.03	U	374.00	239.36	166.22	122.12	93.50	73.87	59.84	49.45	41.55	33.27	23.37	19.25	14.87	11.67	9.28	7.48	6.09
						D	0.98	1.53	2.21	3.01	3.93	4.97	6.14	7.43	8.84	9.75	10.00	10.00	10.00	10.00	10.00	10.00	10.00
SB 605/30		50	85.7			C	112.20	89.76	74.80	64.11	56.10	49.86	44.88	40.80	37.40	34.52	32.05	27.07	22.31	18.60	15.67	13.32	11.42
						D	0.79	1.23	1.77	2.41	3.14	3.98	4.91	5.94	7.07	8.30	9.63	10.00	10.00	10.00	10.00	10.00	10.00
SA 555/30	55×5	100	76.2	0.95	1.03	U	314.26	201.12	139.67	102.61	78.56	62.07	50.28	41.55	32.59	25.63	19.54	14.83	11.45	8.99	7.15	5.76	4.69
						D	1.07	1.67	2.41	3.28	4.29	5.42	6.70	8.10	9.00	9.75	10.00	10.00	10.00	10.00	10.00	10.00	10.00
SB 555/30		50	79.0			C	94.27	75.42	62.85	53.87	47.13	41.90	37.71	34.28	31.42	29.00	25.65	20.85	17.18	14.32	12.07	10.26	8.79
						D	0.86	1.34	1.93	2.63	3.43	4.34	5.36	6.48	7.71	9.05	10.00	10.00	10.00	10.00	10.00	10.00	10.00
SA 505/30	50×5	100	69.5	0.94	1.03	U	259.72	166.2	115.43	84.80	64.93	51.30	41.55	31.78	24.48	19.25	14.68	11.14	8.60	6.75	5.37	4.32	3.52
						D	1.18	1.84	2.65	3.61	4.71	5.97	7.37	8.25	9.00	9.75	10.00	10.00	10.00	10.00	10.00	10.00	10.00
SB 505/30		50	72.3			C	77.91	62.33	51.94	44.52	38.95	34.62	31.16	28.33	25.97	23.47	19.27	15.67	12.91	10.76	9.06	7.71	6.61
						D	0.94	1.47	2.12	2.89	3.77	4.77	5.89	7.13	8.49	9.75	10.00	10.00	10.00	10.00	10.00	10.00	10.00
SA 455/30	45×5	100	62.9	0.93	1.03	U	210.37	134.64	93.50	68.69	52.59	41.55	30.84	23.17	17.85	14.03	10.70	8.12	6.27	4.92	3.91		
						D	1.31	2.05	2.95	4.01	5.24	6.63	7.50	8.25	9.00	9.75	10.00	10.00	10.00	10.00	10.00		
SB 455/30		50	65.7			C	63.11	50.49	42.07	36.06	31.55	28.05	25.24	22.95	20.08	17.11	14.05	11.42	9.41	7.84	6.61		
						D	1.05	1.64	2.36	3.21	4.19	5.30	6.55	7.92	9.00	9.75	10.00	10.00	10.00	10.00	10.00		
SA 405/30	40×5	100	56.2	0.93	1.03	U	166.22	106.38	73.87	54.27	41.55	29.71	21.66	17.27	12.53	9.86	7.51	5.70	4.40	3.45			
						D	1.47	2.30	3.31	4.51	5.89	6.75	7.50	8.25	9.00	9.75	10.00	10.00	10.00	10.00			
SB 405/30		50	59.0			C	49.86	39.89	33.24	28.49	24.93	22.16	19.94	16.78	14.10	12.01	9.86	8.02	6.61	5.51			
						D	1.18	1.84	2.65	3.61	4.71	5.97	7.37	8.25	9.00	9.75	10.00	10.00	10.00	10.00			
SA 403/30	40×3	100	34.8	0.93	1.04	U	99.73	63.82	44.32	32.56	24.93	17.82	12.99	9.76	7.52	5.91	4.51	3.42					
						D	1.47	2.30	3.31	4.51	5.89	6.75	7.50	8.25	9.00	9.75	10.00	10.00					
SB 403/30		50	37.6			C	29.92	23.93	19.94	17.09	14.96	13.29	11.96	10.07	8.46	7.21	5.92	4.81					
						D	1.18	1.84	2.65	3.61	4.71	5.97	7.37	8.25	9.00	9.75	10.00	10.00					
SA 385/30	38×5	100	53.50	0.92	1.04	U	151.49	96.95	67.33	49.46	35.59	24.99	18.22	13.69	10.54	8.29	6.64	5.40					
						D	1.60	2.49	3.59	4.89	6.00	6.75	7.50	8.25	9.00	9.75	10.50	11.25					
SB 385/30		50	56.30			C	45.45	36.36	30.30	25.97	22.72	20.20	17.08	14.12	11.86	10.11	8.71	7.59					
						D	1.28	2.00	2.87	3.91	5.11	6.47	7.50	8.25	9.00	9.75	10.50	11.25					
SA 355/30	35×5	100	49.5	0.92	1.04	U	127.26	81.44	56.56	41.55	28.34	19.90	14.51	10.90	8.39	6.60	5.03	3.82					
						D	1.68	2.63	3.79	5.16	6.00	6.75	7.50	8.25	9.00	9.75	10.00	10.00					
SB 355/30		50	52.3			C	38.17	30.54	25.45	21.81	19.08	16.79	13.60	11.24	9.44	8.05	6.61	5.37					
						D	1.35	2.10	3.03	4.13	5.39	6.75	7.50	8.25	9.00	9.75	10.00	10.00					
SA 353/30	35×3	100	30.8	0.92	1.04	U	76.35	48.86	33.93	24.93	17.00	11.94	8.70	6.54	5.03	3.96	3.02						
						D	1.68	2.63	3.79	5.16	6.00	6.75	7.50	8.25	9.00	9.75	10.00						
SB 353/30		50	33.6			C	22.90	18.32	15.27	13.09	11.45	10.07	8.16	6.74	5.66	4.83	3.96						
						D	1.35	2.10	3.03	4.13	5.39	6.75	7.50	8.25	9.00	9.75	10.00						
SA 325/30	32×5	100	45.5	0.90	1.05	U	93.50	59.84	41.55	26.64	17.85	12.53	9.13	6.86	5.28	4.15							
						D	1.96	3.07	4.42	5.25	6.00	6.75	7.50	8.25	9.00	9.75							
SB 325/30		50	48.3			C	28.05	22.44	18.70	16.02	13.38	10.57	8.56	7.08	5.95	5.06							
						D	1.57	2.46	3.54	4.81	6.00	6.75	7.50	8.25	9.00	9.75							
SA 323/30	32×3	100	28.4	0.90	1.05	U	56.10	35.90	24.93	15.98	10.71	7.52	5.48	4.11	3.17								
						D	1.96	3.07	4.42	5.25	6.00	6.75	7.50	8.25	9.00								
SB 323/30		50	31.2			C	16.83	13.46	11.22	9.61	8.03	6.34	5.14	4.24	3.57								
						D	1.57	2.46	3.54	4.81	6.00	6.75	7.50	8.25	9.00								
SA 255/30	25×5	100	36.2	0.88	1.06	U	64.93	41.55	24.48	15.41	10.32	7.25	5.28	3.97									
						D	2.36	3.68	4.50	5.25	6.00	6.75	7.50	8.25									
SB 255/30		50	39.0			C	19.47	15.58	12.98	10.11	7.74	6.12	4.95	4.09									
						D	1.89	2.95	4.24	5.25	6.00	6.75	7.50	8.25									
SA 253/30	25×3	100	22.8	0.88	1.06	U	38.95	24.93	14.69	9.25	6.19	4.35	3.17										
						D	2.36	3.68	4.50	5.25	6.00	6.75	7.50										
SB 253/30		50	25.6			C	11.68	9.35	7.79	6.07	4.64	3.67	2.97										
						D	1.89	2.95	4.24	5.25	6.00	6.75	7.50										
SA 205/30	20×5	100	29.5	0.86	1.08	U	41.55	21.66	12.53	7.89	5.28	3.71											
						D	2.95	3.75	4.50	5.25	6.00	6.75											
SB 205/30		50	32.3			C	12.46	9.97	7.05	5.18	3.96	3.13											
						D	2.36	3.68	4.50	5.25	6.00	6.75											
SA 203/30	20×3	100	18.8	0.86	1.08	U	24.93	12.99	7.52	4.73	3.17												
						D	2.95	3.75	4.50	5.25	6.00												
SB 203/30		50	21.6			C	7.48	5.98	4.23	3.10	2.38												
						D	2.36	3.68	4.50	5.25	6.00												

U = Safe uniformly distributed load in kN/m²
D = Deflection in mm.
C = Safe concentrated load in kN/m width at mid span

Serration Factor:
The tabulated load and deflection should be multiplied by the factor shown when using serration flooring.

Panel Weights:
Weights shown are for flooring with 50 mm. and 100 mm pitch cross bars. Weights for other specifications can be obtained from our office.

Remark: The above mentioned weight is for the standard panel (open end) with untreated condition.
The weight of fabricated grating (including banding bars and galvanizing) increases about 12%.

No. OF BEARING BARS	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
WIDTH - 5 mm. BEARING BARS	215	245	275	305	335	365	395	425	455	485	515	545	575	605	635	665	695	725	755	785	815	845	875	905	935	965	995
WIDTH - 3 mm. BEARING BARS	213	243	273	303	333	363	393	423	453	483	513	543	573	603	633	663	693	723	753	783	813	843	873	903	933	963	993

LOAD & DEFLECTION TABLE
BEARING BAR AT 35.3 mm. PITCH

TYPE	Bearing Bar Section in mm.	Cross Bar Pitch	Nom. Weight kg/m²	Serration Factor			CLEAR SPAN (mm.)															
				Load.	Def.		600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000
SA 605/35	60×5	100	71.1	0.95	1.03	U	319.00	204.16	141.77	104.16	79.75	63.01	51.04	42.18	35.44	28.38	21.64	16.42	12.68	9.95	7.92	6.38	5.19
						D	0.98	1.53	2.21	3.01	3.93	4.97	6.14	7.43	8.84	9.75	10.00	10.00	10.00	10.00	10.00	10.00	10.00
SB 605/35		50	73.9			C	95.70	76.56	63.80	54.68	47.85	45.53	38.28	34.80	31.90	29.44	27.34	23.09	19.03	15.86	13.36	11.36	9.74
						D	0.79	1.23	1.77	2.41	3.14	3.98	4.91	5.94	7.07	8.30	9.63	10.00	10.00	10.00	10.00	10.00	10.00
SA 555/35	55×5	100	65.4	0.95	1.03	U	268.04	171.55	119.13	87.52	67.01	52.94	42.88	35.44	27.79	21.86	16.67	12.65	9.77	7.66	6.10	4.91	4.00
						D	1.07	1.67	2.41	3.28	4.29	5.42	6.70	8.10	9.00	9.75	10.00	10.00	10.00	10.00	10.00	10.00	10.00
SB 555/35		50	68.2			C	80.41	64.33	53.60	45.95	40.20	35.73	32.16	29.24	26.80	24.74	21.88	17.79	14.65	12.22	10.29	8.75	7.50
						D	0.86	1.34	1.93	2.63	3.43	4.34	5.36	6.48	7.71	9.05	10.00	10.00	10.00	10.00	10.00	10.00	10.00
SA 505/35	50×5	100	59.7	0.94	1.03	U	221.52	141.77	98.45	72.33	55.38	43.75	35.44	27.11	20.88	16.42	12.52	9.50	7.34	5.76	4.58		
						D	1.18	1.84	2.65	3.61	4.71	5.97	7.37	8.25	9.00	9.75	10.00	10.00	10.00	10.00	10.00		
SB 505/35		50	62.5			C	66.45	53.16	44.30	37.97	33.22	29.53	26.58	24.16	22.15	20.01	16.43	13.36	11.01	9.18	7.73		
						D	0.94	1.47	2.12	2.89	3.77	4.77	5.89	7.13	8.49	9.75	10.00	10.00	10.00	10.00	10.00		
SA 455/35	45×5	100	54.0	0.93	1.03	U	179.43	114.84	79.74	58.59	44.85	35.44	26.30	19.76	15.22	11.97	9.13	6.92	5.35	4.19			
						D	1.31	2.05	2.95	4.01	5.24	6.63	7.50	8.25	9.00	9.75	10.00	10.00	10.00	10.00			
SB 455/35		50	56.8			C	53.83	43.06	35.88	30.76	26.91	23.92	21.53	19.57	17.12	14.59	11.98	9.74	8.02	6.69			
						D	1.05	1.64	2.36	3.21	4.19	5.30	6.55	7.92	9.00	9.75	10.00	10.00	10.00	10.00			
SA 405/35	40×5	100	48.3	0.93	1.03	U	141.77	90.73	63.01	46.29	35.44	25.34	18.47	13.88	10.69	8.41	6.41	4.86					
						D	1.47	2.30	3.31	4.51	5.89	6.75	7.50	8.25	9.00	9.75	10.00	10.00					
SB 405/35		50	51.1			C	42.53	34.02	28.35	24.30	21.26	18.90	17.01	14.31	12.02	10.25	8.41	6.84					
						D	1.18	1.84	2.65	3.61	4.71	5.97	7.37	8.25	9.00	9.75	10.00	10.00					
SA 403/35	40×3	100	30.1	0.93	1.04	U	90.93	58.19	40.41	29.69	22.73	16.25	11.85	8.90	6.85	5.39	4.11						
						D	1.47	2.30	3.31	4.51	5.89	6.75	7.50	8.25	9.00	9.75	10.00						
SB 403/35		50	32.9			C	27.28	21.82	18.18	15.58	13.64	12.12	10.91	9.18	7.71	6.57	5.39						
						D	1.18	1.84	2.65	3.61	4.71	5.97	7.37	8.25	9.00	9.75	10.00						
SA 385/35	38×5	100	46.05	0.92	1.04	U	130.48	83.50	57.99	42.60	30.65	21.53	15.69	11.79	9.08	7.14	5.72						
						D	1.60	2.49	3.59	4.89	6.00	6.75	7.50	8.25	9.00	9.75	10.50						
SB 385/35		50	48.85			C	39.14	31.31	26.10	22.37	19.57	17.40	14.71	12.16	10.22	8.71	7.51						
						D	1.28	2.00	2.87	3.91	5.11	6.47	7.50	8.25	9.00	9.75	10.50						
SA 355/35	35×5	100	42.6	0.92	1.04	U	108.54	69.47	48.24	35.44	24.17	16.98	12.37	9.30	7.16	5.63	4.29						
						D	1.68	2.63	3.79	5.16	6.00	6.75	7.50	8.25	9.00	9.75	10.00						
SB 355/35		50	45.4			C	32.56	26.05	21.70	18.60	16.28	14.32	11.60	9.59	8.05	6.86	5.63						
						D	1.35	2.10	3.03	4.13	5.39	6.75	7.50	8.25	9.00	9.75	10.00						
SA 353/35	35×3	100	26.7	0.92	1.04	U	69.92	44.55	30.94	22.73	15.50	10.89	7.93	5.96	4.59	3.61							
						D	1.68	2.63	3.79	5.16	6.00	6.75	7.50	8.25	9.00	9.75							
SB 353/35		50	29.5			C	20.88	16.70	13.92	11.93	10.44	9.18	7.44	6.15	5.16	4.40							
						D	1.35	2.10	3.03	4.13	5.39	6.75	7.50	8.25	9.00	9.75							
SA 325/35	32×5	100	39.2	0.90	1.05	U	79.75	51.03	35.44	22.72	15.22	10.69	7.79	5.85	4.51								
						D	1.96	3.07	4.42	5.25	6.00	6.75	7.50	8.25	9.00								
SB 325/35		50	42.0			C	23.92	19.14	15.95	13.67	11.41	9.02	7.30	6.03	5.07								
						D	1.57	2.46	3.54	4.81	6.00	6.75	7.50	8.25	9.00								
SA 323/35	32×3	100	24.7	0.90	1.05	U	51.15	32.73	22.73	14.57	9.76	6.85	4.99	3.75									
						D	1.96	3.07	4.42	5.25	6.00	6.75	7.50	8.25									
SB 323/35		50	27.5			C	15.34	12.27	10.23	8.76	7.32	5.78	4.68	3.87									
						D	1.57	2.46	3.54	4.81	6.00	6.75	7.50	8.25									
SA 255/35	25×5	100	31.3	0.88	1.06	U	55.38	35.44	20.88	13.15	8.81	6.18	4.51										
						D	2.36	3.68	4.50	5.25	6.00	6.75	7.50										
SB 255/35		50	34.1			C	16.61	13.29	11.07	8.63	6.60	5.22	4.22										
						D	1.89	2.95	4.24	5.25	6.00	6.75	7.50										
SA 253/35	25×3	100	19.9	0.88	1.06	U	35.52	22.73	13.39	8.43	5.65	3.96											
						D	2.36	3.68	4.50	5.25	6.00	6.75											
SB 253/35		50	22.7			C	10.65	8.52	7.10	5.53	4.23	3.34											
						D	1.89	2.95	4.24	5.25	6.00	6.75											
SA 205/35	20×5	100	25.6	0.86	1.08	U	35.44	18.47	10.69	6.73	4.51												
						D	2.95	3.75	4.50	5.25	6.00												
SB 205/35		50	28.4			C	10.63	8.50	6.01	4.41	3.38												
						D	2.36	3.68	4.50	5.25	6.00												
SA 203/35	20×3	100	16.5	0.86	1.08	U	22.73	11.85	6.85	4.31													
						D	2.95	3.75	4.50	5.25													
SB 203/35		50	19.3			C	6.82	5.45	3.85	2.83													
						D	2.36	3.68	4.50	5.25													

U = Safe uniformly distributed load in kN/m²
D = Deflection in mm.
C = Safe concentrated load in kN/m width at mid span

Serration Factor:
The tabulated load and deflection should be multiplied by the factor shown when using serration flooring.

Panel Weights:
Weights shown are for flooring with 50 mm. and 100 mm pitch cross bars. Weights for other specifications can be obtained from our office.

Remark: The above mentioned weight is for the standard panel (open end) with untreated condition.
The weight of fabricated grating (including banding bars and galvanizing) increases about 13%.

No. OF BEARING BARS	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
WIDTH - 5 mm. BEARING BARS	146	182	217	252	287	323	358	393	429	464	499	535	570	605	640	676	711	746	782	817	852	888	923	958	993
WIDTH - 3 mm. BEARING BARS	144	180	215	250	285	321	356	391	427	462	497	533	568	603	638	674	709	744	780	815	850	886	921	956	991

LOAD & DEFLECTION TABLE
BEARING BAR AT 40 mm. PITCH

TYPE	Bearing Bar Section in mm.	Cross Bar Pitch	Nom. Weight kg/m²	Serration Factor			CLEAR SPAN (mm.)																
				Load.	Def.		600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000
SA 605/40	60×5	100	63.7	0.95	1.03	U	275.00	176.00	122.22	89.79	68.75	54.32	44.00	36.36	30.55	24.46	18.65	14.15	10.93	8.58	6.82	5.50	4.48
						D	0.98	1.53	2.21	3.01	3.93	4.97	6.14	7.43	8.84	9.75	10.00	10.00	10.00	10.00	10.00	10.00	10.00
SB 605/40		50	66.5			C	82.50	66.00	55.00	47.14	41.25	36.66	33.00	30.00	27.50	25.38	23.57	19.91	16.40	13.67	11.52	9.79	8.40
						D	0.79	1.23	1.77	2.41	3.14	3.98	4.91	5.94	7.07	8.30	9.63	10.00	10.00	10.00	10.00	10.00	10.00
SA 555/40	55×5	100	58.7	0.95	1.03	U	231.07	147.88	102.70	74.45	57.76	45.64	36.97	30.55	23.96	18.84	14.37	10.90	8.42	6.61	5.25	4.23	3.45
						D	1.07	1.67	2.41	3.28	4.29	5.42	6.70	8.10	9.00	9.75	10.00	10.00	10.00	10.00	10.00	10.00	10.00
SB 555/40		50	61.4			C	69.32	55.45	46.21	39.61	34.66	30.81	27.72	25.20	23.10	21.33	18.86	15.33	12.63	10.53	8.87	7.54	6.47
						D	0.86	1.34	1.93	2.63	3.34	4.34	5.36	6.48	7.71	9.05	10.00	10.00	10.00	10.00	10.00	10.00	10.00
SA 505/40	50×5	100	53.3	0.94	1.03	U	190.97	122.22	84.87	62.35	47.74	37.72	30.55	23.37	18.00	14.16	10.79	8.19	6.32	4.96	3.95		
						D	1.18	1.84	2.65	3.61	4.71	5.97	7.37	8.25	9.00	9.75	10.00	10.00	10.00	10.00	10.00		
SB 505/40		50	56.3			C	57.29	45.83	38.19	32.73	28.64	25.46	22.91	20.83	19.09	17.25	14.17	11.52	9.49	7.91	6.66		
						D	0.94	1.47	2.12	2.89	3.77	4.77	5.89	7.13	8.49	9.75	10.00	10.00	10.00	10.00	10.00		
SA 455/40	45×5	100	48.5	0.93	1.03	U	154.68	99.00	68.75	50.51	38.67	40.55	22.68	17.03	13.12	10.32	7.87	5.97	4.61	3.62			
						D	1.31	2.05	2.95	4.01	5.24	6.63	7.50	8.25	9.00	9.75	10.00	10.00	10.00	10.00			
SB 455/40		50	51.3			C	46.40	37.12	30.93	26.51	23.20	20.62	18.56	16.87	14.76	12.58	10.33	8.39	6.92	5.77			
						D	1.05	1.64	2.63	3.21	4.19	5.30	6.55	7.92	9.00	9.75	10.00	10.00	10.00	10.00			
SA 405/40	40×5	100	43.4	0.93	1.03	U	122.22	78.22	54.32	39.90	30.55	21.85	15.92	11.96	9.21	7.25	5.52	4.19	3.24				
						D	1.47	2.30	3.31	4.51	5.89	6.75	7.50	8.25	9.00	9.75	10.00	10.00	10.00				
SB 405/40		50	46.2			C	36.66	29.33	24.44	20.95	18.33	16.29	14.66	12.34	10.37	8.83	7.25	5.89	4.86				
						D	1.18	1.84	2.65	3.61	4.71	5.97	7.37	8.25	9.00	9.75	10.00	10.00	10.00				
SA 403/40	40×3	100	27.2	0.93	1.04	U	73.33	46.93	32.59	23.94	18.33	13.11	9.55	7.18	5.53	4.35	3.31						
						D	1.47	2.30	3.31	4.51	5.89	6.75	7.50	8.25	9.00	9.75	10.00						
SB 403/40		50	30.0			C	22.00	17.60	14.66	12.57	11.00	9.77	8.80	7.40	6.22	5.30	4.35						
						D	1.18	1.84	2.65	3.61	4.71	5.97	7.37	8.25	9.00	9.75	10.00						
SA 385/40	38×5	100	41.58	0.92	1.04	U	114.72	73.42	50.99	37.46	26.95	18.93	13.80	10.37	7.98	6.28	5.03						
						D	1.60	2.49	3.59	4.89	6.00	6.75	7.50	8.25	9.00	9.75	10.50						
SB 385/40		50	44.38			C	34.42	27.53	22.94	19.67	17.21	15.30	12.94	10.69	8.98	7.65	6.60						
						D	1.28	2.00	2.87	3.91	5.11	6.47	7.50	8.25	9.00	9.75	10.50						
SA 355/40	35×5	100	38.3	0.92	1.04	U	93.57	59.88	41.58	30.55	20.84	14.63	10.67	8.01	6.17	4.85	3.70						
						D	1.18	2.63	3.79	5.16	6.00	6.75	7.50	8.25	9.00	9.75	10.00						
SB 355/40		50	41.1			C	28.07	22.45	18.71	16.04	14.03	12.35	10.00	8.26	6.94	5.91	4.86						
						D	1.35	2.10	3.03	4.13	5.39	6.75	7.50	8.25	9.00	9.75	10.00						
SA 353/40	35×3	100	24.1	0.92	1.04	U	56.14	35.93	24.95	18.33	12.50	8.78	6.40	4.81	3.70								
						D	1.68	2.63	3.79	5.16	6.00	6.75	7.50	8.25	9.00								
SB 353/40		50	26.9			C	16.84	13.47	11.22	9.62	8.42	7.41	6.00	4.96	4.16								
						D	1.35	2.10	3.03	4.13	5.39	6.75	7.50	8.25	9.00								
SA 325/40	32×5	100	35.3	0.90	1.05	U	68.75	44.00	30.55	19.59	13.12	9.21	6.72	5.04	3.88								
						D	1.96	3.07	4.42	5.25	6.00	6.75	7.50	8.25	9.00								
SB 325/40		50	38.1			C	20.62	16.50	13.75	11.78	9.84	7.77	6.30	5.20	4.37								
						D	1.57	2.46	3.54	4.81	6.00	6.75	7.50	8.25	9.00								
SA 323/40	32×3	100	22.3	0.90	1.05	U	41.25	26.40	18.33	11.75	7.87	5.53	4.03	3.02									
						D	1.96	3.07	4.42	5.25	6.00	6.75	7.50	8.25									
SB 323/40		50	25.1			C	12.37	9.90	8.25	7.07	6.90	4.66	3.78	3.12									
						D	1.57	2.46	3.54	4.81	6.00	6.75	7.50	8.25									
SA 255/40	25×5	100	28.2	0.88	1.06	U	47.74	30.55	18.00	11.33	7.59	5.33	3.88										
						D	2.36	3.68	4.50	5.25	6.00	6.75	7.50										
SB 255/40		50	31.0			C	14.32	11.45	9.54	7.44	5.69	4.50	3.64										
						D	1.89	2.95	4.24	5.25	6.00	6.75	7.50										
SA 253/40	25×3	100	18.0	0.88	1.06	U	28.64	18.33	10.80	6.80	4.55	3.20											
						D	2.36	3.68	4.50	5.25	6.00	6.75											
SB 253/40		50	20.8			C	8.59	6.87	5.72	4.46	3.41	2.70											
						D	1.89	2.95	4.24	5.25	6.00	6.75											
SA 205/40	20×5	100	23.1	0.86	1.08	U	30.55	15.92	9.21	5.80	3.88												
						D	2.95	3.75	4.50	5.25	6.00												
SB 205/40		50	25.9			C	9.16	7.33	5.18	3.80	2.91												
						D	2.36	3.68	4.50	5.25	6.00												
SA 203/40	20×3	100	15.0	0.86	1.08	U	18.33	9.55	5.53	3.48													
						D	2.95	3.75	4.50	5.25													
SB 203/40		50	17.8			C	5.50	4.40	3.11	2.28													
						D	2.36	3.68	4.50	5.25													

U = Safe uniformly distributed load in kN/m²
D = Deflection in mm.
C = Safe concentrated load in kN/m width at mid span

Serration Factor:
The tabulated load and deflection should be multiplied by the factor shown when using serration flooring.

Panel Weights:
Weights shown are for flooring with 50 mm. and 100 mm pitch cross bars. Weights for other specifications can be obtained from our office.

Remark: The above mentioned weight is for the standard panel (open end) with untreated condition.
The weight of fabricated grating (including banding bars and galvanizing) increases about 14%.

No. OF BEARING BARS	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
WIDTH - 5 mm. BEARING BARS	165	205	245	285	325	365	405	445	485	525	565	605	645	685	725	765	805	845	885	925	965	1005
WIDTH - 3 mm. BEARING BARS	163	203	243	283	323	363	403	443	483	523	563	603	643	683	723	763	803	843	883	923	963	1003

LOAD & DEFLECTION TABLE
BEARING BAR AT 60 mm. PITCH

TYPE	Bearing Bar Section in mm.	Cross Bar Pitch	Nom. Weight kg/m²	Serration Factor			CLEAR SPAN (mm.)															
				Load.	Def.		600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000
SA 605/60	60×5	100	42.84	0.95	1.03	U	194.33	124.37	86.37	63.46	48.58	38.39	31.09	25.70	21.36	16.80	12.81	9.72	7.51	5.89	4.69	3.78	3.08
						D	1.01	1.58	2.27	3.10	4.04	5.12	6.32	7.65	9.00	9.75	10.00	10.00	10.00	10.00	10.00	10.00	10.00
SB 605/60		50	45.64			C	58.30	46.64	38.87	33.31	29.15	25.91	23.32	21.20	19.43	17.94	16.66	13.67	11.26	9.39	7.91	6.73	5.77
						D	0.81	1.26	1.82	2.48	3.24	4.09	5.06	6.12	7.28	8.54	9.91	10.00	10.00	10.00	10.00	10.00	10.00
SA 555/60	55×5	100	39.50	0.95	1.03	U	163.29	104.51	72.58	53.32	40.82	32.26	26.13	21.36	16.45	12.94	9.87	7.49	5.78	4.54	3.61		
						D	1.10	1.72	2.48	3.38	4.41	5.58	6.89	8.25	9.00	9.75	10.00	10.00	10.00	10.00	10.00		
SB 555/60		50	42.30			C	48.99	39.19	32.66	27.99	24.49	21.77	19.60	17.81	16.33	15.07	12.95	10.53	8.67	7.23	6.09		
						D	0.88	1.38	1.99	2.70	3.53	4.47	5.51	6.67	7.94	9.32	10.00	10.00	10.00	10.00	10.00		
SA 505/60	50×5	100	36.16	0.94	1.03	U	134.95	86.37	59.98	44.07	33.74	26.66	21.36	16.05	12.36	9.72	7.41	5.62	4.35	3.41			
						D	1.21	1.90	2.73	3.72	4.85	6.14	7.50	8.25	9.00	9.75	10.00	10.00	10.00	10.00			
SB 505/60		50	38.96			C	40.49	32.39	26.99	23.13	20.24	17.99	16.19	14.72	13.50	11.85	9.73	7.91	6.52	5.43			
						D	0.97	1.52	2.18	2.97	3.88	4.91	6.07	7.34	8.74	9.75	10.00	10.00	10.00	10.00			
SA 455/60	45×5	100	32.83	0.93	1.03	U	109.31	69.96	48.58	35.69	27.33	21.36	15.57	11.70	9.01	7.09	5.40	4.10	3.17				
						D	1.35	2.11	3.03	4.13	5.39	6.75	7.50	8.25	9.00	9.75	10.00	10.00	10.00				
SB 455/60		50	35.63			C	32.79	26.24	21.86	18.74	16.40	14.58	13.12	11.93	10.14	8.64	7.09	5.77	4.75				
						D	1.08	1.69	2.43	3.30	4.31	5.46	6.74	8.16	9.00	9.75	10.00	10.00	10.00				
SA 405/60	40×5	100	29.49	0.93	1.03	U	86.37	55.28	38.39	28.20	21.36	15.00	10.93	8.22	6.33	4.98	3.80	2.88					
						D	1.52	2.37	3.41	4.64	6.00	6.75	7.50	8.25	9.00	9.75	10.00	10.00					
SB 405/60		50	32.29			C	25.91	20.73	17.27	14.81	12.96	11.52	10.25	8.47	7.12	6.07	4.98	4.05					
						D	1.21	1.90	2.73	3.72	4.85	6.14	7.50	8.25	9.00	9.75	10.00	10.00					
SA 403/60	40×3	100	18.81	0.93	1.04	U	51.82	33.17	23.03	16.92	12.81	9.00	6.56	4.93	3.80	2.99							
						D	1.52	2.37	3.41	4.64	6.00	6.75	7.50	8.25	9.00	9.75							
SB 403/60		50	21.61			C	15.55	6.37	3.07	1.66	0.97	0.61	6.15	5.08	4.27	3.64							
						D	1.21	0.97	0.81	0.69	0.61	0.54	7.50	8.25	9.00	9.75							
SA 385/60	38×5	100	28.16	0.92	1.04	U	77.95	49.89	34.64	25.45	18.31	12.86	9.38	7.04	5.43	4.27							
						D	1.60	2.49	3.59	4.89	6.00	6.75	7.50	8.25	9.00	9.75							
SB 385/60		50	30.96			C	23.38	18.71	15.59	13.36	11.69	10.39	8.79	7.26	6.10	5.20							
						D	1.28	2.00	2.87	3.91	5.11	6.74	7.50	8.25	9.00	9.75							
SA 355/60	35×5	100	26.15	0.92	1.04	U	66.13	42.32	29.39	21.36	14.31	10.05	7.33	5.50	4.24								
						D	1.73	2.71	3.90	5.25	6.00	6.75	7.50	8.25	9.00								
SB 355/60		50	28.95			C	19.84	15.87	13.23	11.34	9.92	8.48	6.87	5.68	4.77								
						D	1.39	2.17	3.12	4.25	5.55	6.75	7.50	8.25	9.00								
SA 353/60	35×3	100	16.81	0.92	1.04	U	39.68	25.39	17.63	12.81	8.58	6.03	4.40	3.30									
						D	1.73	2.71	3.90	5.25	6.00	6.75	7.50	8.25									
SB 353/60		50	19.61			C	11.90	9.52	7.94	6.80	5.95	5.09	4.12	3.41									
						D	1.39	2.17	3.12	4.25	5.55	6.75	7.50	8.25									
SA 325/60	32×5	100	24.15	0.90	1.05	U	55.28	35.38	24.57	16.32	10.93	7.68	5.60	4.21									
						D	1.90	2.96	4.27	5.25	6.00	6.75	7.50	8.25									
SB 325/60		50	26.95			C	16.58	13.27	11.06	9.48	8.20	6.48	5.25	4.34									
						D	1.52	2.37	3.41	4.64	6.00	6.75	7.50	8.25									
SA 323/60	32×3	100	15.61	0.90	1.05	U	33.17	21.23	14.74	9.79	6.56	4.61	3.36										
						D	1.90	2.96	4.27	5.25	6.00	6.75	7.50										
SB 323/60		50	18.41			C	9.95	7.96	6.63	5.69	4.92	3.89	3.15										
						D	1.52	2.37	3.41	4.64	6.00	6.75	7.50										
SA 255/60	25×5	100	19.48	0.88	1.06	U	33.74	21.36	12.36	7.78	5.21	3.66	2.67										
						D	2.43	3.75	4.50	5.25	6.00	6.75	7.50										
SB 255/60		50	22.28			C	10.12	8.10	6.75	5.11	3.91	3.09	2.50										
						D	1.94	3.03	4.37	5.25	6.00	6.75	7.50										
SA 253/60	25×3	100	12.81	0.88	1.06	U	20.24	12.81	7.42	4.67	3.13												
						D	2.43	3.75	4.50	5.25	6.00												
SB 253/60		50	15.61			C	6.07	4.86	4.05	3.06	2.35												
						D	1.94	3.03	4.37	5.25	6.00												
SA 205/60	20×5	100	16.15	0.86	1.08	U	21.36	10.93	6.33	3.98	2.67												
						D	3.00	3.75	4.50	5.25	6.00												
SB 205/60		50	18.95			C	6.48	5.13	3.56	2.62	2.00												
						D	2.43	3.75	4.50	5.25	6.00												
SA 203/60	20×3	100	10.81	0.86	1.08	U	12.81	6.56	3.80	2.39													
						D	3.00	3.75	4.50	5.25													
SB 203/60		50	13.61			C	3.89	3.08	2.14	1.57													
						D	2.43	3.75	4.50	5.25													

U = Safe uniformly distributed load in kN/m²
D = Deflection in mm.
C = Safe concentrated load in kN/m width at mid span

Serration Factor:
The tabulated load and deflection should be multiplied by the factor shown when using serration flooring.

Panel Weights:
Weights shown are for flooring with 50 mm. and 100 mm pitch cross bars. Weights for other specifications can be obtained from our office.

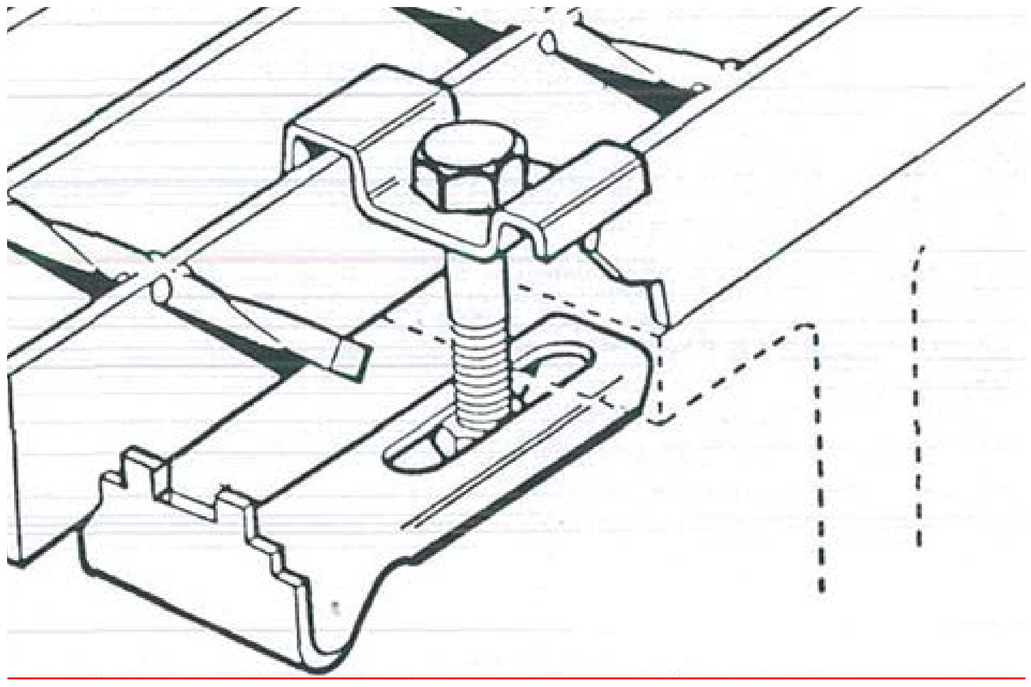
Remark: The above mentioned weight is for the standard panel (open end) with untreated condition.
The weight of fabricated grating (including banding bars and galvanizing) increases about 16%.

No. OF BEARING BARS	5	6	7	8	9	10	11	12	13	14	15	16	17
WIDTH - 5 mm. BEARING BARS	245	305	365	425	485	545	605	665	725	785	845	905	965
WIDTH - 3 mm. BEARING BARS	243	303	363	423	483	543	603	663	723	783	843	903	963

FIXING METHODS

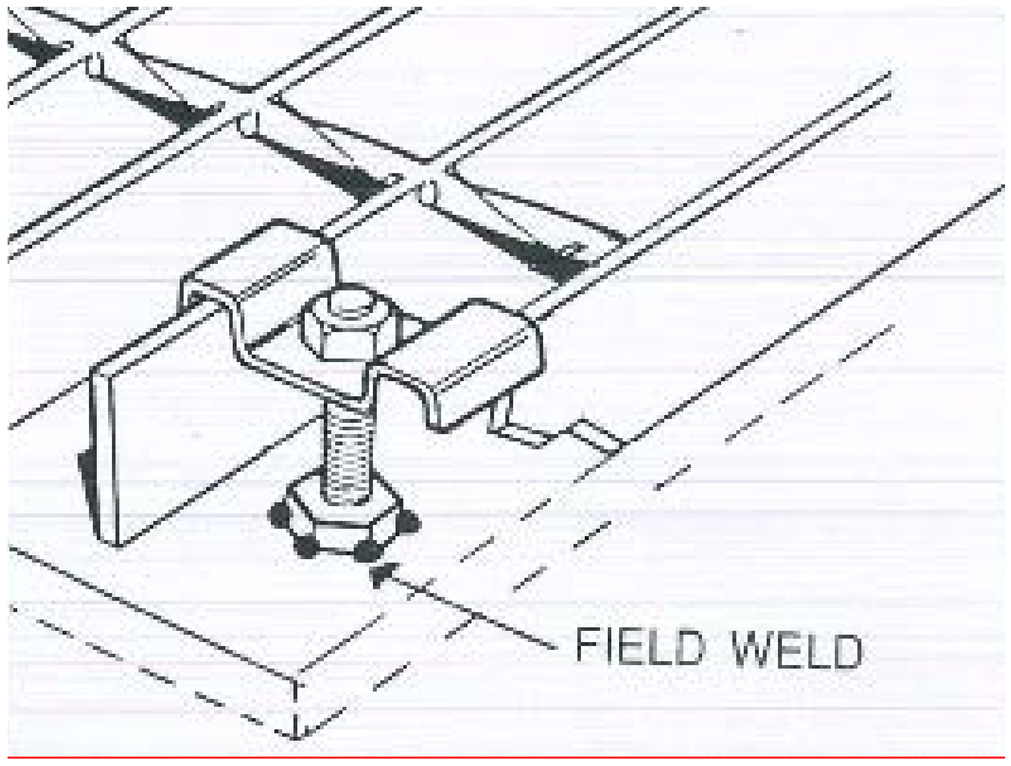
SSG's grating can be fixed on the supporting members by the steelwork erector with clips or by tack welding.

It is important to note that when there is no lateral restraint provided by the support structure, a minimum of four clips per panel must be used to restrain floor panels. Where larger panels are to be fixed, it is advisable to use extra clips on any available intermediate supports.

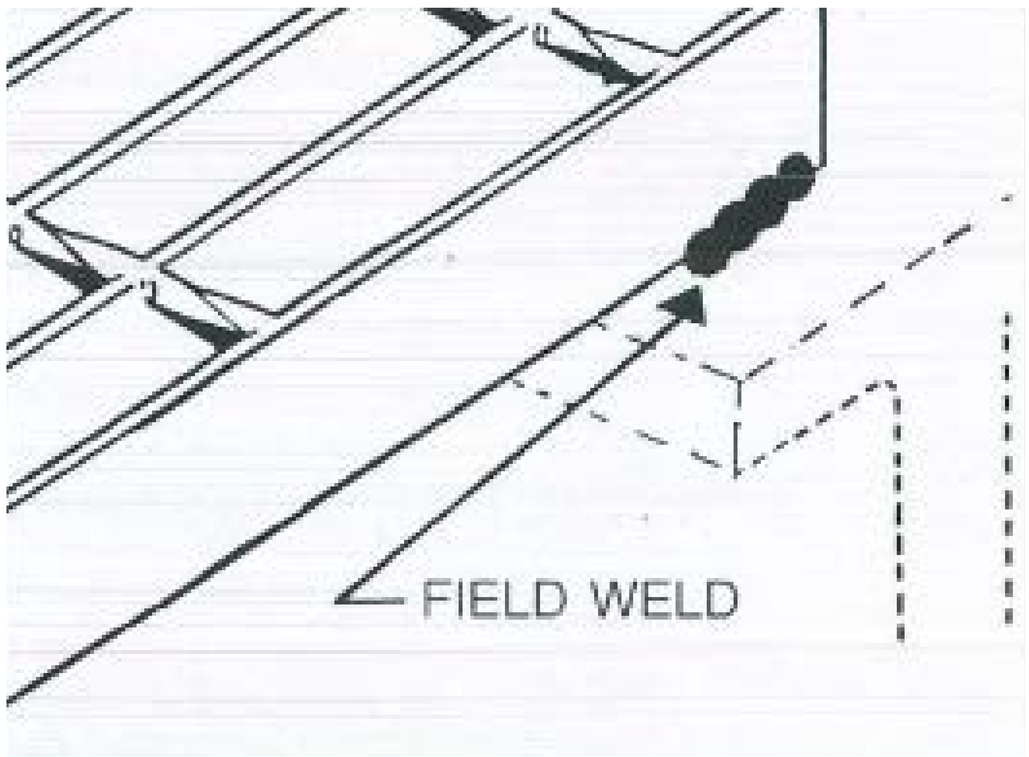


Clip Ref. SC 1 : A pressed steel saddle clamp constructed in such a way that fixing is possible from above.

Recommended Bolt For Clip		
Depth of Bearing bar	**Length Of Bolt**	
	SC1 Type	**SC2 Type**
20 mm. To 25 mm.	40 mm.	Substract 5 mm. from Depth of Bearing Bar
30 mm. To 45 mm.	60 mm.	
50 mm. To 65 mm.	75 mm.	



Clip Ref. SC 2: Stud Bolts are centered between two main bars and welded to supporting members. A pressed top clip engaging two main bearing bars is placed over the Stud Bolt and then the Hex nut is tightened.



TACK WELDING : It is the most positive fastening method. Grating is field welded to support.

HOW TO ORDER

As a general guide for ordering clips, please specify as follows :

TYPE OF CLIP	BEARING BAR PITCH	SIZE OF BOLT & NUT

EXAMPLE : SC1/30/M8 × 40 BOLT & NUT

MEANING : The clip type "SC1" for grating with bearing bar pitch of 30 mm. and fixing with M8 × 40 bolt & nut.

STAIR TREADS

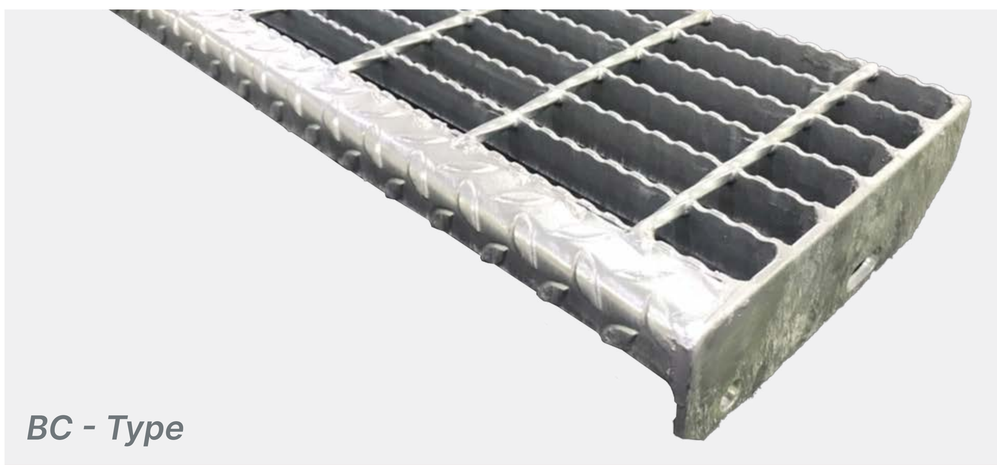
SSG's stair treads are supplied with any of the bar arrangement and a variety of different non-slip nosing, e.g., checkered plate nosing, vertical striped steel plate nosing, etc. The stair tread can be fixed to the steel member with bolts (B-type) or by welding (W-type) according to customers' requirements.

SSG'S STANDARDOF STAIR TREAD.

The following stair tread types are **SSG's** standard production types, which are widely used and most popular. Moreover, custom-made stair tread to suit each individual is also available, Please consult our technical or sales department for technical assistance.

Bolt fixing type without nosing

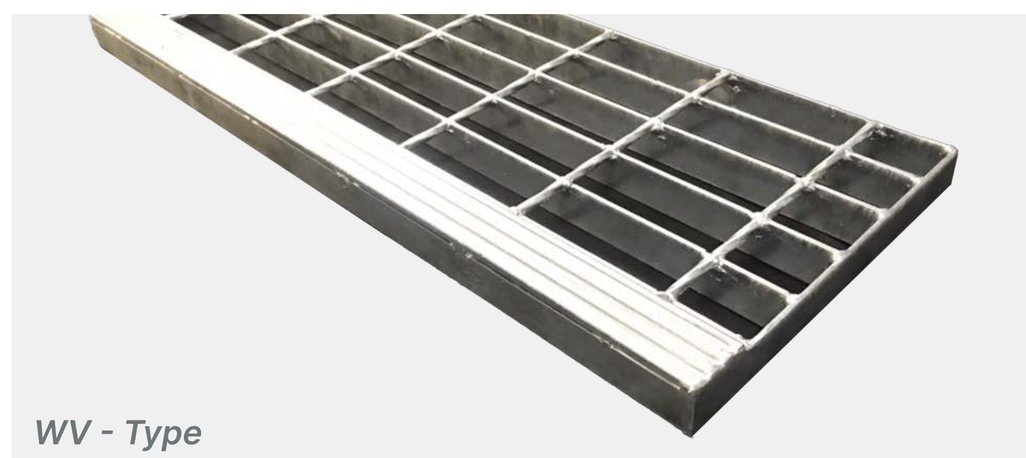
Welding type without nosing



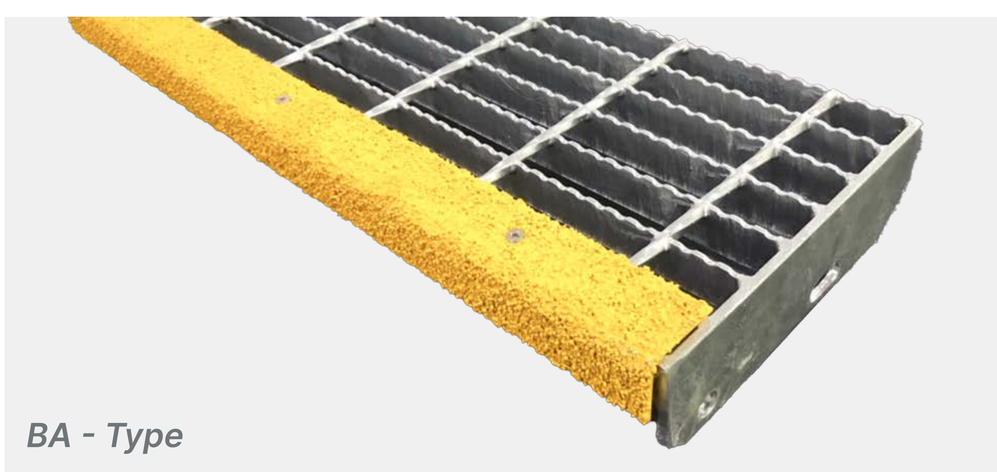
Bolt fixing type with checkered plate nosing

Welding type with checkered plate nosing

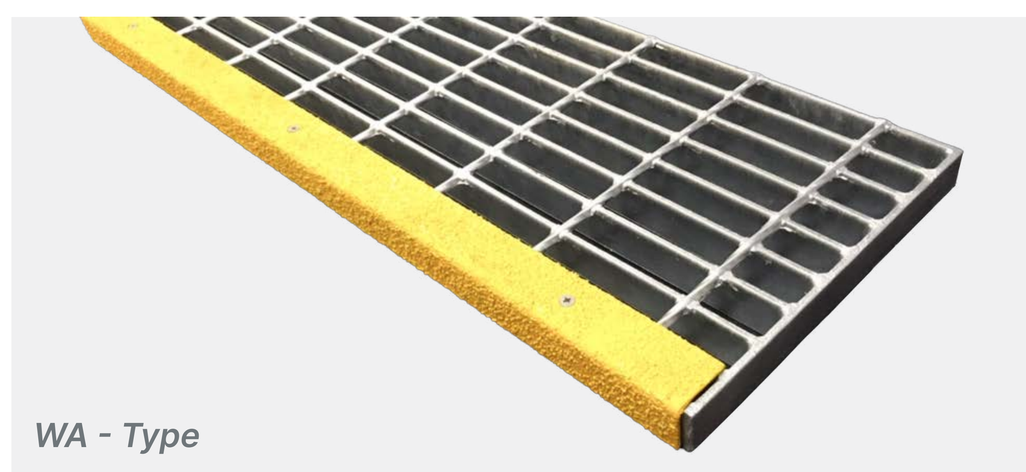
Bolt fixing type with vertical striped steel plate nosing



Welding type with vertical striped steel plate nosing



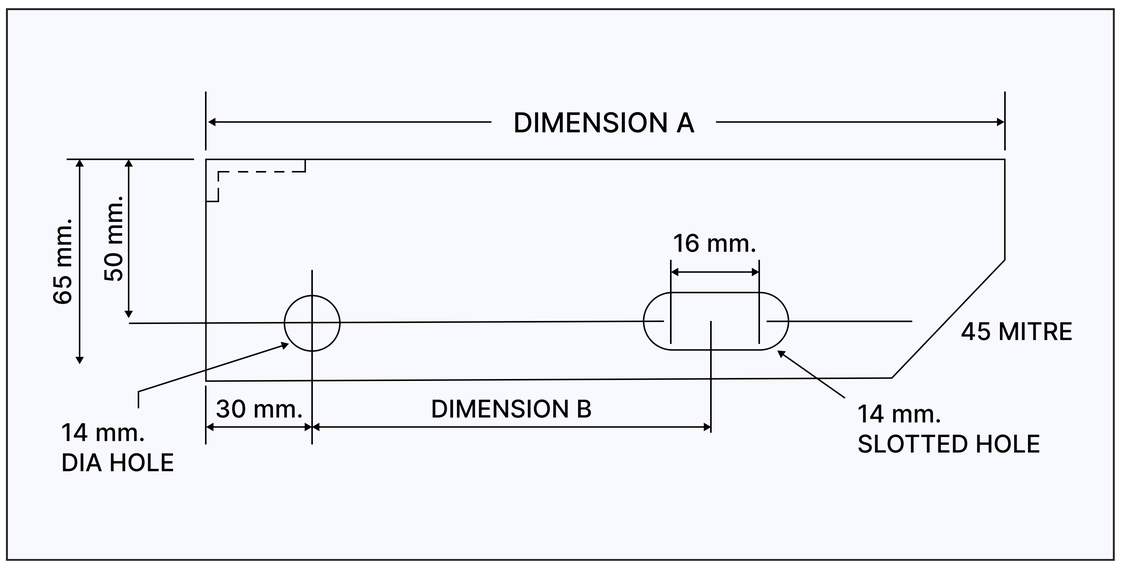
Bolt fixing type with abrasive steel plate nosing



Welding type with abrasive steel plate nosing

MAXIMUM LENGTH

Bearing Bar Section (mm.)	40 mm. Pitch		30 mm. Pitch	
	Plain	Serrated	Plain	Serrated
25 × 3	700	625	850	750
25 × 5	1000	900	1150	1050
32 × 3	1000	900	1150	1050
32 × 5	1275	1200	1400	1325
35 × 3	1250	1200	1375	1300
35 × 5	1500	1425	1625	1550



STAIR TREAD WIDTH AND FIXING HOLE CENTERS

Bearing Bar Pitch	Bearing Bar Thickness	Dim "A"		Dim "B"	Dim "A"		Dim "B"	Dim "A"		Dim "B"
		BC - Type Checkered Plate Steel nosing	BV - Type Vertical striped Plate Steel nosing		BC - Type Checkered Plate Steel nosing	BV - Type Vertical striped Plate Steel nosing		BC - Type Checkered Plate Steel nosing	BV - Type Vertical striped Plate Steel nosing	
40 mm. Pitch	3 5	193 195	198 200	100 100	233 235	238 240	100 100	273 275	278 280	150 150
35.5 mm. Pitch	3 5	210 212	215 217	100 100	245 247	250 252	100 100	280 282	285 287	150 150
30 mm. Pitch	3 5	213 215	218 220	100 100	243 245	248 250	100 100	273 275	278 280	150 150

HOW TO ORDER (STAIR TREAD)

As a general guide for ordering standard stairtread, please specify the following:

STAIR TREAD TYPE	GRATING TYPE	SIZE

FOR EXAMPLE : Stair tread BV-Type using SA 255/30 (Plain) size 245 mm. width 720 mm. LB.

MEANING : Stair tread, Bolt fixing type with vertical striped plate steel nosing using grating type SA 255/30 (plain) size 245 mm. width x 720 mm. length.

TRENCH COVER

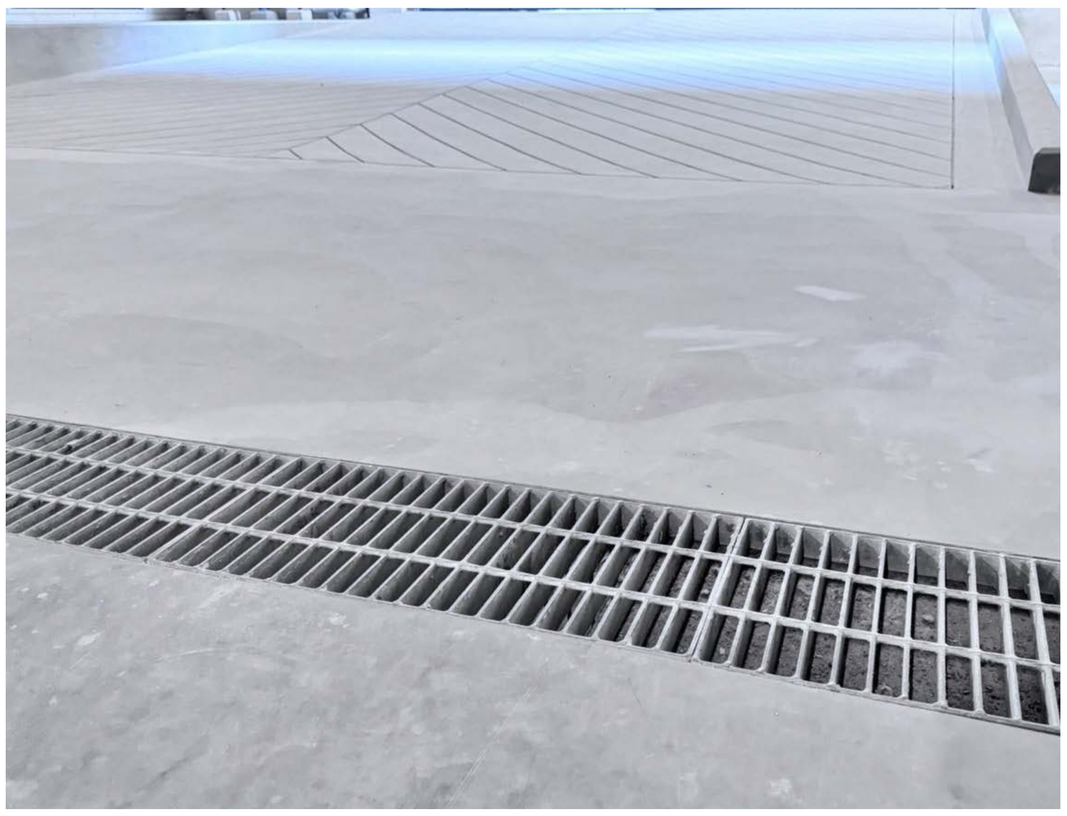
Transverse Trench:

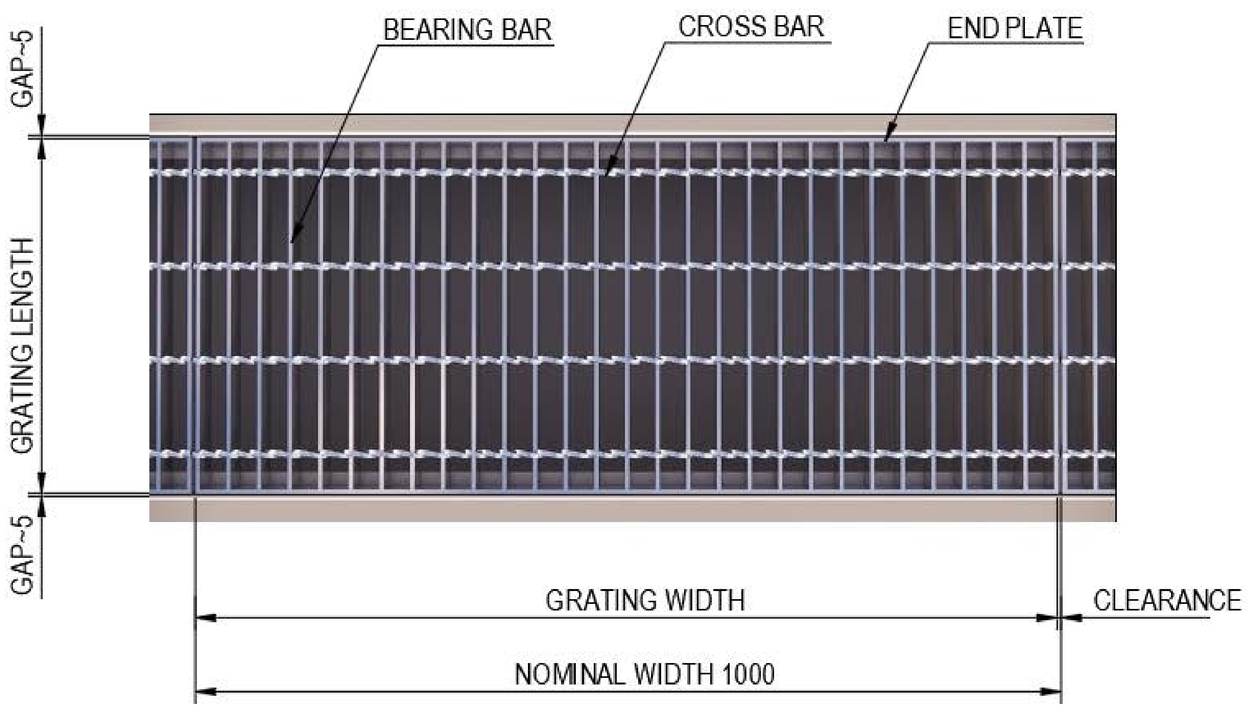
A drainage that is constructed generally across the road is call transverse trench and the relation between the auto-car and the grating: Car passes through in parallel with the bearing bar.

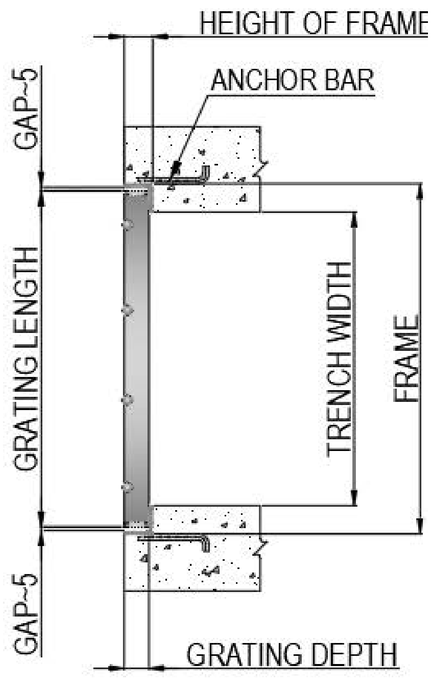
Side Trench:

A drainage that is constructed generally on the road-side, and the relation between auto-car and the grating :
Car passes through load bar at right angle
(in parallel with cross bar.)

1. SIDE TRENCH & TRANSVERSE TRENCH







Symbol	Trench Width (mm.)	Dimension (mm.)				
		Dimensions (a)	Width (b)	(A)	Cross Bar	Angle Size
ST.20	200	240	995	260	6.0	L30×30×5
ST.25	250	290	995	310	6.0	L30×30×5
ST.30	300	340	995	360	6.0	L30×30×5
ST.35	350	390	995	410	6.0	L30×30×5

With bearing bar size 25 × 5 mm.,30 mm. pitch.

TRENCH COVER FOR 30 MM. BEARING BAR PITCH

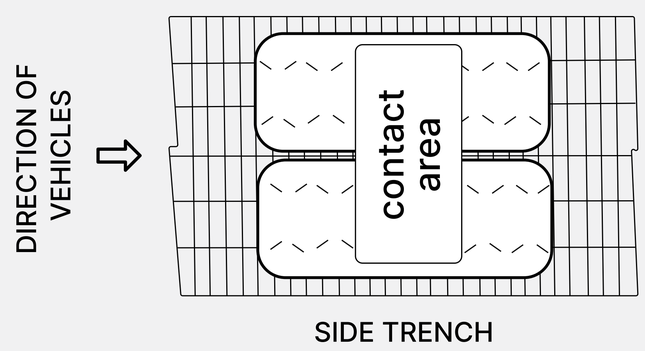
TYPE OF VEHICLE	Load	Total load (tons)	Rear wheel load(kg.)	wheel contract length (mm.)	Rear wheel width(mm.)
Heavy truck	T-20	20	8000	200	500
Bus	T-14	14	5600	200	500
Small truck	T-6	6	2400	200	240
Passenger car	T-2	2	800	200	160
Side walk	500 kg/m² Uniformly distribution load				

Fy =	2400 (kg/m²)
Allowable bending stress =	1584 (kg/cm²)

Class	Impact Factor
Side trench	0
Transverse trench	0.4

SIDE TRENCH

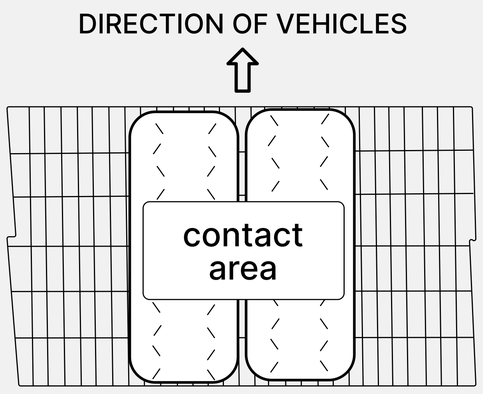
Type	Clear span (mm.)																		
	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1100	1200
SA605/30	T-20	T-20	T-20	T-20	T-20	T-14	T-6	T-6	T-6	T-6	T-2	T-2	T-2	T-2	T-2	T-2	T-2	T-2	T-2
SA555/30	T-20	T-20	T-20	T-20	T-14	T-6	T-6	T-6	T-2	T-2	T-2	T-2	T-2	T-2	T-2	T-2	T-2	T-2	T-2
SA505/30	T-20	T-20	T-20	T-14	T-14	T-6	T-6	T-2	T-2	T-2	T-2	T-2	T-2	T-2	T-2	T-2	T-2	T-2	T-2
SA455/30	T-20	T-20	T-20	T-14	T-6	T-2	T-2	T-2	T-2	T-2	T-2	T-2	T-2	T-2	T-2	T-2	T-2		
SA405/30	T-20	T-20	T-14	T-6	T-2	T-2	T-2	T-2	T-2	T-2	T-2	T-2	T-2						
SA403/30	T-20	T-14	T-2	T-2	T-2	T-2	T-2												
SA355/30	T-20	T-14	T-6	T-2	T-2	T-2	T-2	T-2											
SA353/30	T-14	T-2	T-2	T-2	T-2														
SA325/30	T-20	T-14	T-2	T-2	T-2	T-2	T-2												
SA323/30	T-14	T-2	T-2	T-2															
SA255/30	T-14	T-2	T-2	T-2															
SA253/30	T-2	T-2																	



SIDE TRENCH

TRANSVERSE TRENCH

Type	Clear span (mm.)																		
	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1100	1200
SA605/30	T-20	T-20	T-20	T-20	T-14	T-14	T-14	T-6	T-6	T-2	T-2	T-2	T-2	T-2	T-2	T-2	T-2	T-2	
SA555/30	T-20	T-20	T-20	T-14	T-14	T-6	T-6	T-2	T-2	T-2	T-2	T-2	T-2	T-2	T-2	T-2			
SA505/30	T-20	T-20	T-20	T-14	T-6	T-6	T-2	T-2	T-2	T-2	T-2	T-2	T-2						
SA455/30	T-20	T-20	T-14	T-6	T-2	T-2	T-2	T-2	T-2	T-2									
SA405/30	T-20	T-14	T-6	T-2	T-2	T-2	T-2	T-2	T-2										
SA403/30	T-14	T-2	T-2																
SA355/30	T-14	T-6	T-2	T-2	T-2														
SA353/30	T-6	T-2	T-2																
SA325/30	T-6	T-2	T-2	T-2															
SA323/30	T-2	T-2																	
SA255/30	T-2	T-2																	
SA253/30	T-2																		



TRANSVERSE TRENCH

TRENCH COVER FOR 35 MM. BEARING BAR PITCH

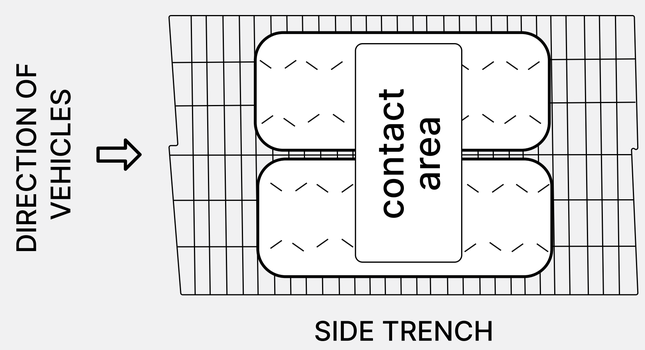
TYPE OF VEHICLE	Load	Total load (tons)	Rear wheel load(kg.)	wheel contract length (mm.)	Rear wheel width(mm.)
Heavy truck	T-20	20	8000	200	500
Bus	T-14	14	5600	200	500
Small truck	T-6	6	2400	200	240
Passenger car	T-2	2	800	200	160
Side walk	500 kg/m² Uniformly distribution load				

Fy =	2400 (kg/m²)
Allowable bending stress =	1584 (kg/cm²)

Class	Impact Factor
Side trench	0
Transverse trench	0.4

SIDE TRENCH

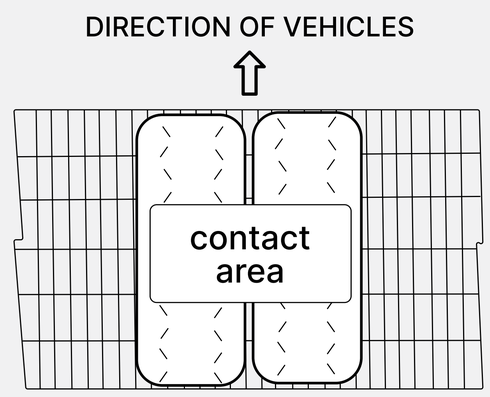
Type	Clear span (mm.)																		
	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1100	1200
SA605/35	T-20	T-20	T-20	T-20	T-14	T-14	T-6	T-6	T-2	T-2	T-2	T-2	T-2	T-2	T-2	T-2			
SA555/35	T-20	T-20	T-20	T-14	T-14	T-6	T-6	T-2	T-2	T-2	T-2	T-2	T-2	T-2					
SA505/35	T-20	T-20	T-20	T-14	T-6	T-6	T-2	T-2	T-2	T-2	T-2	T-2							
SA455/35	T-20	T-20	T-14	T-6	T-2	T-2	T-2	T-2	T-2	T-2	T-2								
SA405/35	T-20	T-20	T-14	T-2	T-2	T-2	T-2	T-2	T-2										
SA403/35	T-14	T-2	T-2	T-2	T-2	T-2													
SA355/35	T-20	T-14	T-2	T-2	T-2	T-2	T-2	T-2											
SA353/35	T-14	T-2	T-2	T-2															
SA325/35	T-20	T-6	T-2	T-2	T-2	T-2													
SA323/35	T-2	T-2	T-2																
SA255/35	T-2	T-2	T-2																
SA253/35	T-2																		



SIDE TRENCH

TRANSVERSE TRENCH

Type	Clear span (mm.)																		
	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1100	1200
SA605/35	T-20	T-20	T-20	T-20	T-14	T-14	T-2	T-2	T-6	T-2	T-2	T-2	T-2	T-2					
SA555/35	T-20	T-20	T-20	T-14	T-14	T-2	T-2	T-2	T-2	T-2	T-2	T-2	T-2						
SA505/35	T-20	T-20	T-14	T-14	T-2	T-2	T-2	T-2	T-2	T-2									
SA455/35	T-20	T-14	T-14	T-2	T-2	T-2	T-2	T-2											
SA405/35	T-20	T-14	T-2	T-2	T-2	T-2													
SA403/35	T-6	T-2	T-2																
SA355/35	T-14	T-2	T-2	T-2															
SA353/35	T-2	T-2																	
SA325/35	T-14	T-2	T-2																
SA323/35	T-2																		
SA255/35	T-2																		
SA253/35	-																		



TRANSVERSE TRENCH

TRENCH COVER FOR 40 MM. BEARING BAR PITCH

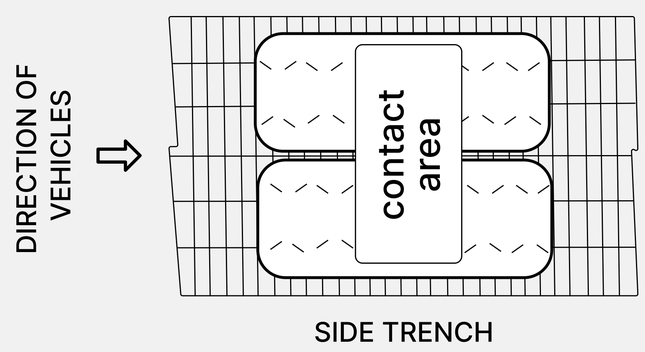
TYPE OF VEHICLE	Load	Total load (tons)	Rear wheel load(kg.)	wheel contract length (mm.)	Rear wheel width(mm.)
Heavy truck	T-20	20	8000	200	500
Bus	T-14	14	5600	200	500
Small truck	T-6	6	2400	200	240
Passenger car	T-2	2	800	200	160
Side walk	500 kg/m² Uniformly distribution load				

Fy =	2400 (kg/m²)
Allowable bending stress =	1584 (kg/cm²)

Class	Impact Factor
Side trench	0
Transverse trench	0.4

SIDE TRENCH

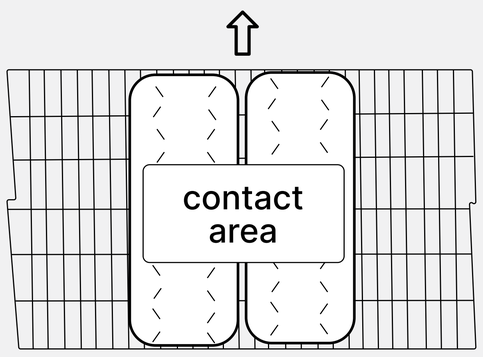
Type	Clear span (mm.)																		
	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1100	1200
SA605/40	T-20	T-20	T-20	T-20	T-14	T-14	T-6	T-6	T-2	T-2	T-2	T-2	T-2	T-2	T-2	T-2			
SA555/40	T-20	T-20	T-20	T-14	T-14	T-6	T-6	T-2	T-2	T-2	T-2	T-2	T-2	T-2					
SA505/40	T-20	T-20	T-20	T-14	T-6	T-6	T-2	T-2	T-2	T-2	T-2	T-2							
SA455/40	T-20	T-20	T-14	T-6	T-2	T-2	T-2	T-2	T-2	T-2	T-2								
SA405/40	T-20	T-20	T-14	T-2	T-2	T-2	T-2	T-2	T-2										
SA403/40	T-14	T-2	T-2	T-2	T-2	T-2													
SA355/40	T-20	T-14	T-2	T-2	T-2	T-2	T-2	T-2											
SA353/40	T-14	T-2	T-2	T-2															
SA325/40	T-20	T-6	T-2	T-2	T-2	T-2													
SA323/40	T-2	T-2	T-2																
SA255/40	T-2	T-2	T-2																
SA253/40	T-2																		



SIDE TRENCH

TRANSVERSE TRENCH

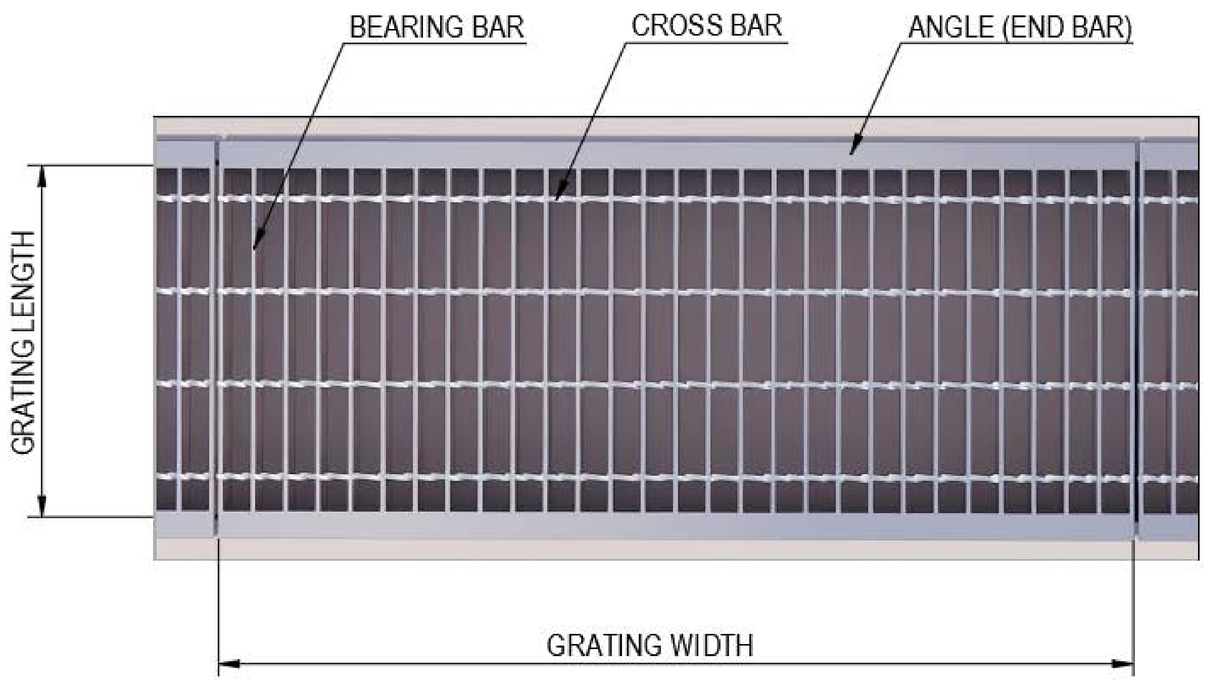
Type	Clear span (mm.)																		
	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1100	1200
SA605/40	T-20	T-20	T-20	T-14	T-14	T-6	T-2	T-2	T-2	T-2	T-2	T-2	T-2	T-2					
SA555/40	T-20	T-20	T-14	T-14	T-6	T-2	T-2	T-2	T-2	T-2	T-2	T-2	T-2						
SA505/40	T-20	T-20	T-14	T-6	T-2	T-2	T-2	T-2	T-2	T-2									
SA455/40	T-20	T-14	T-6	T-2	T-2	T-2	T-2	T-2											
SA405/40	T-14	T-6	T-2	T-2	T-2	T-2													
SA403/40	T-6	T-2																	
SA355/40	T-14	T-2	T-2	T-2															
SA353/40	T-2	T-2																	
SA325/40	T-6	T-2	T-2																
SA323/40	T-2																		
SA255/40	T-2																		
SA253/40	-																		

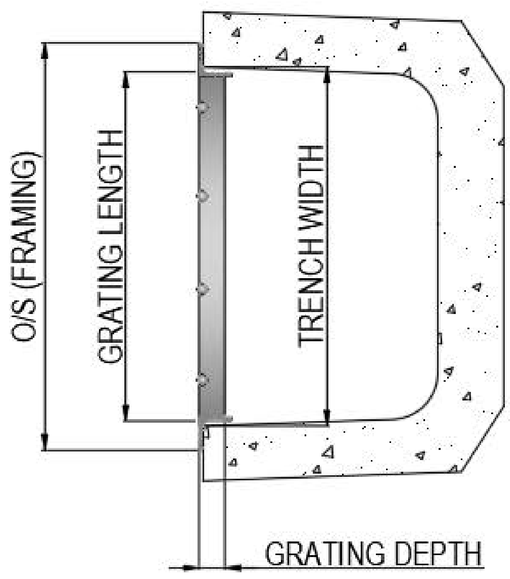


TRANSVERSE TRENCH

2. U-TRENCH

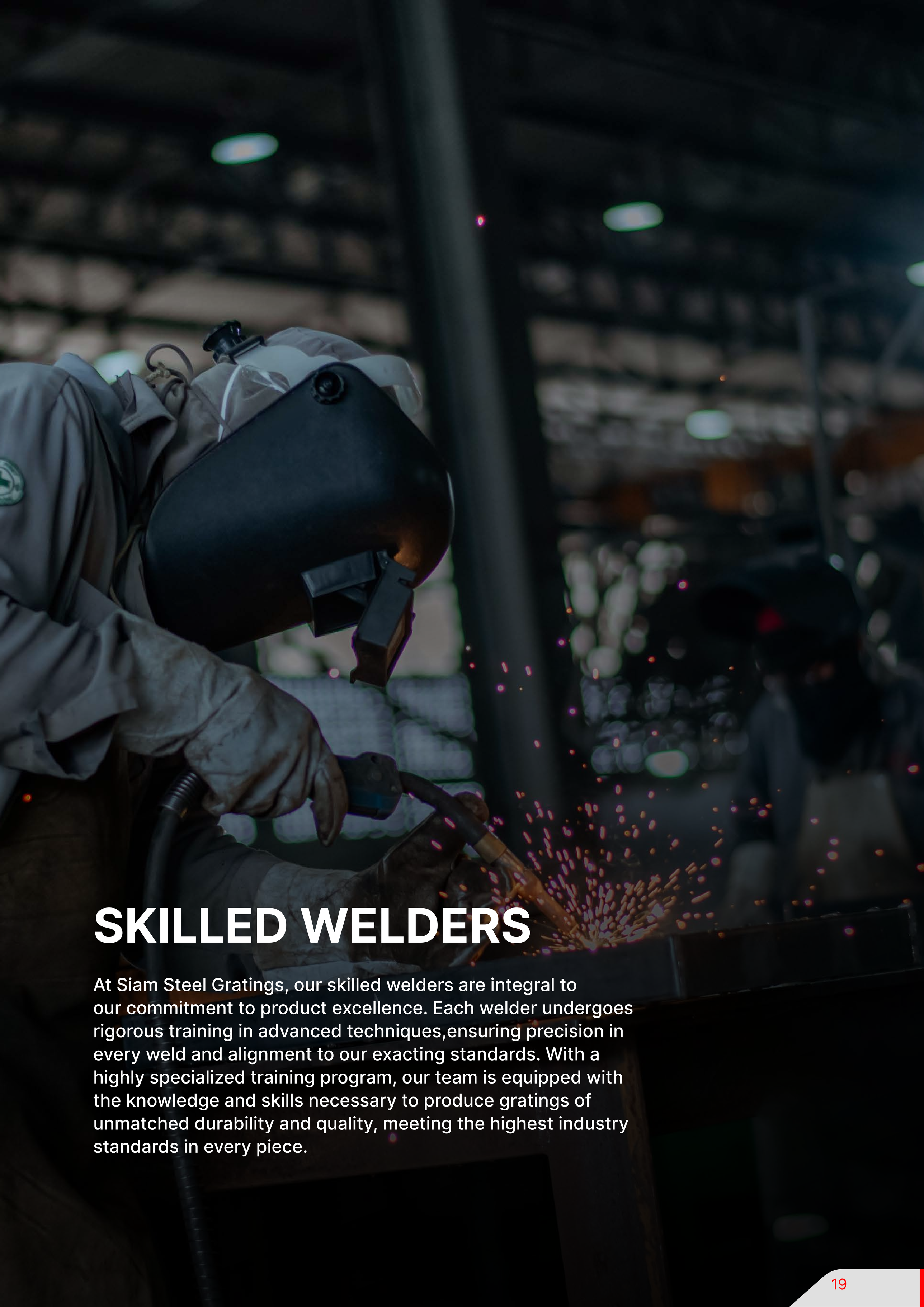
This is simply used as a trench cover by placing it on the U-type concrete trench. Recommend for walk way only.





Symbol	Trench Width (mm.)	Dimension (mm.)				
		Dimensions (a)	Width (b)	(A)	Cross Bar	Angle Size
UT.15	150	140	995	194	6.0	L30×30×3
UT.18	180	170	995	224	6.0	L30×30×3
UT.24	240	230	995	284	6.0	L30×30×3
UT.30	300	290	995	344	6.0	L30×30×3
UT.36	360	350	995	404	6.0	L30×30×3

With bearing bar size 25 × 5 mm.,30 mm. pitch.

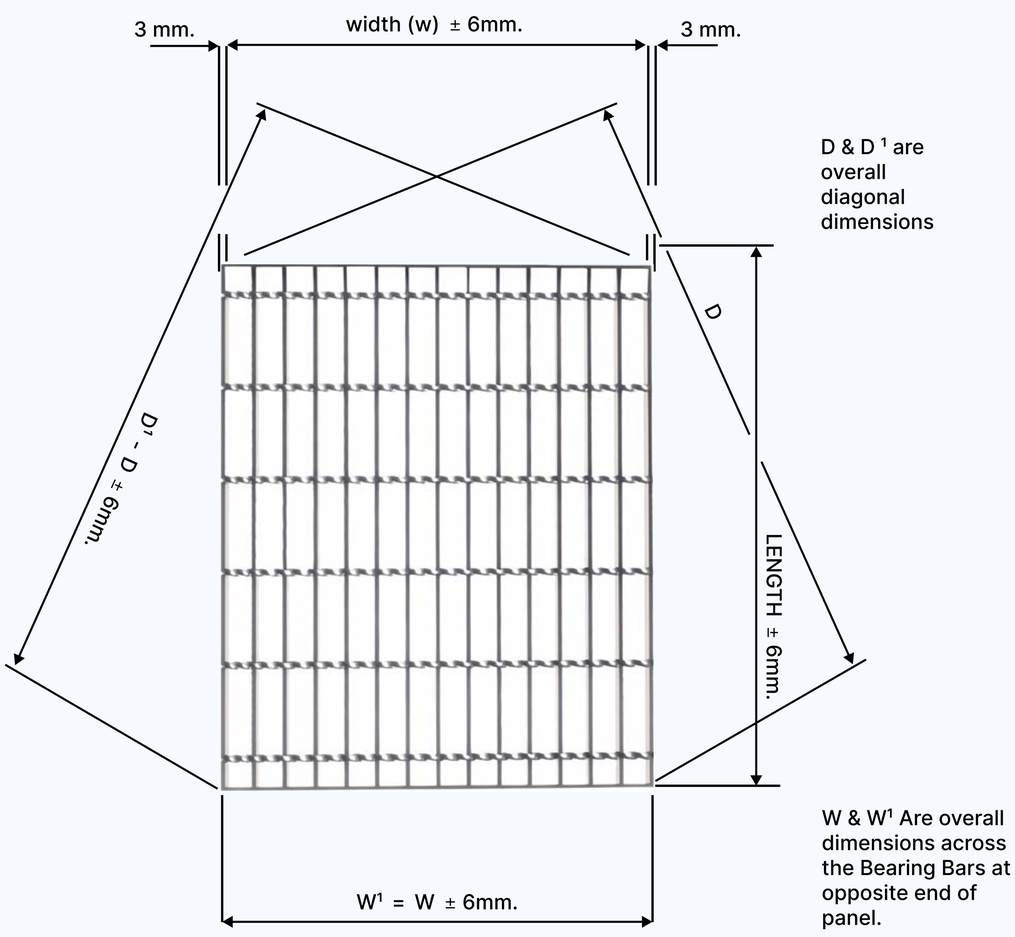


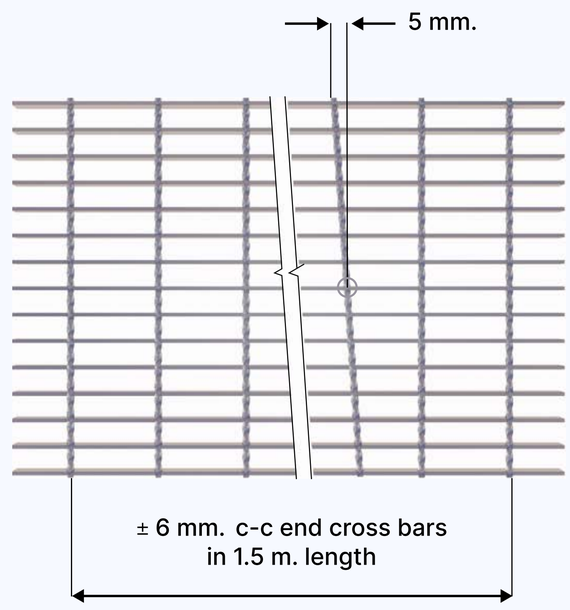
SKILLED WELDERS

At Siam Steel Gratings, our skilled welders are integral to our commitment to product excellence. Each welder undergoes rigorous training in advanced techniques,ensuring precision in every weld and alignment to our exacting standards. With a highly specialized training program, our team is equipped with the knowledge and skills necessary to produce gratings of unmatched durability and quality, meeting the highest industry standards in every piece.

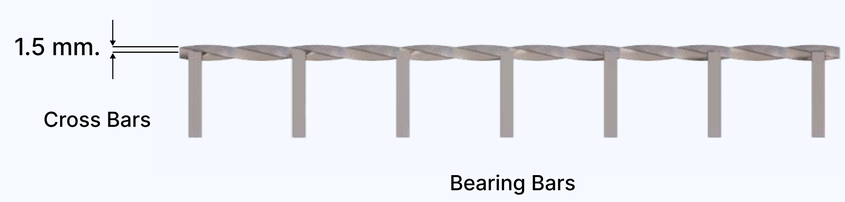
STANDARD MANUFACTURING TOLERANCES

SSG's Standard manufacturing tolerances are according to the National Association of Architectural Metal Manufacturers (NAAMM) Specification in U.S.A. All dimensions given are maximum permissible tolerance.





CROSS BAR ALIGNMENT AND SPACING

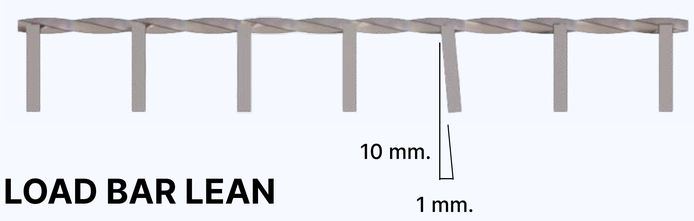


CROSS BAR LOCATION

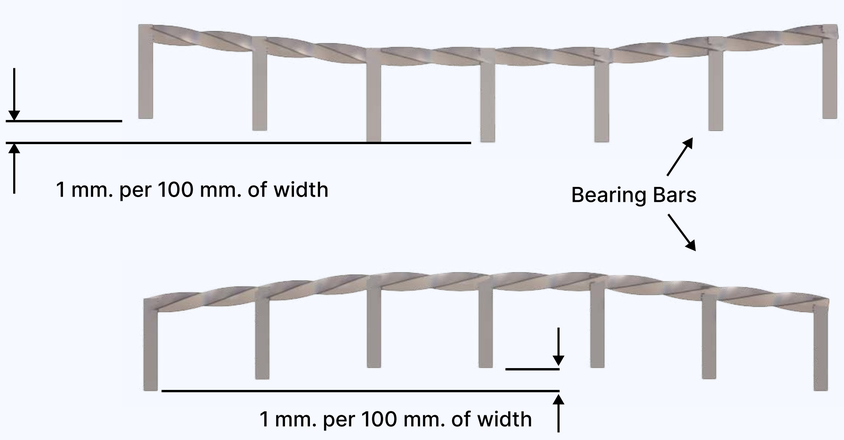
(Forgeline only)

OVERALL DIMENSIONS AND SQUARENESS

Fabrication welding.
Banding bars and attachment are welded
with a minimum 3 mm. fillet to one side of :
every 5th bearing bar - for Bearing bars at 30 mm. pitch
every 4th bearing bar - for Bearing bars at 35.3 mm. and 40 mm. pitch.

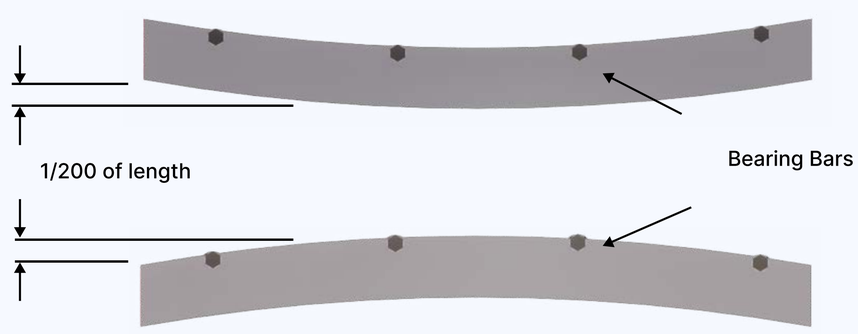


LOAD BAR LEAN



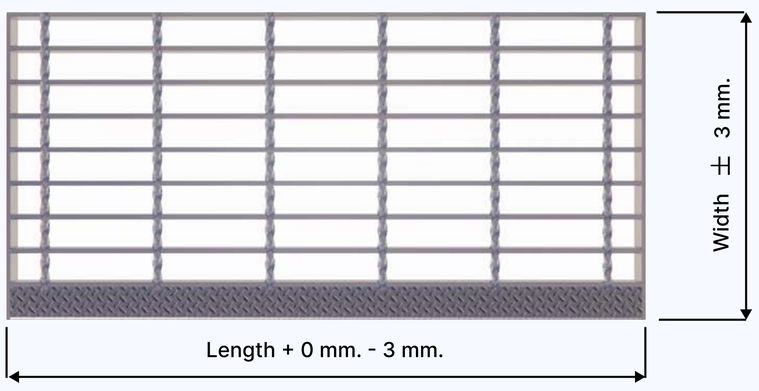
TRANSVERSE BOW

(before fastening to supports)



LONGITUDINAL BOW

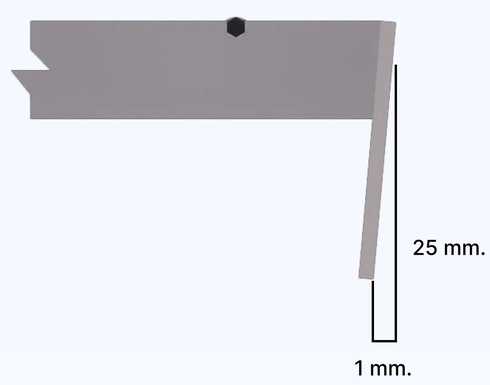
STAIR TREAD TOLERANCES



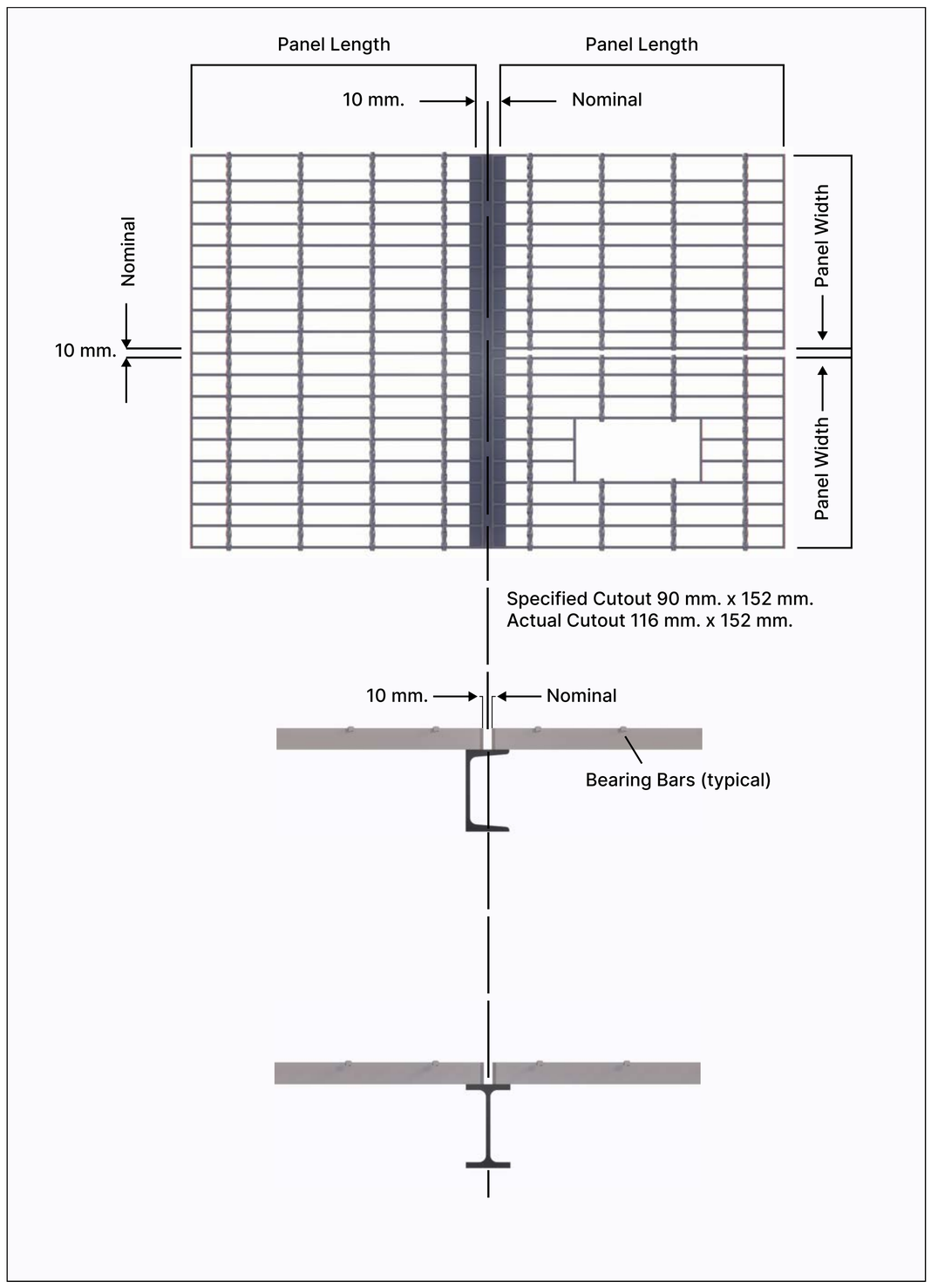
OVERALL DIMENSIONS

NOTE: Length of tread is distance between outer faces of the Carrier Plates.

END FLAT LEAN



STANDARD INSTALLATION CLEARANCES



Clearances shown are recommended but may vary relative to standard manufacturing tolerances and trueness of the supporting members. Cut - outs for circular constructions are recommended to be at least 50 mm. greater in diameter than the obstruction. It is further recommended that cut-outs for all piping 100 mm. or less in diameter be made during installation.

GLOSSARY OF TERMS

BEARING BARS (Load Bars)

Load carrying bars of uniform section in rolled steel spanning between supporting steel members.

CROSS BARS (Transverse Bars)

Rods of uniform section in square twisted steel, electro-forged to the top and at right angles to the bearing bars.

BANDING BARS (Edge Bar)

Finishing bar of same section as the bearing bars welded across the end of the bearing bars and also around notches and penetrations where these occur in a panel.

CUT TO SIZE (Without Edge Bars)

Specifies that panels are to be supplied cut to the overall length only, exclusive of end banding bars.

PANEL

Completed piece of grating cut to size or banded and notched as specified by customer.

STOCK SHEET

Sheet of grating as produced by forge-welding machine. Nominal size 1.0m. x 6.0m. LB.

WIDTH OF PANEL

The overall dimensions of panel when measured parallel with the cross bars. This dimension is always referred to as 'width' even if it exceeds the length.

LENGTH OF PANEL

The overall dimension of a panel when measured parallel with the bearing bars. This dimension is always referred to as 'length' even if shorter than the width. Normally designated by letters LB after the dimension.

NOTCH, PENETRATION OR CUT OUT

An area of grating removed from panel to permit pipes, plant and structural columns to pass through, or to clear obstructions.

KICKPLATE(Toe Plate)

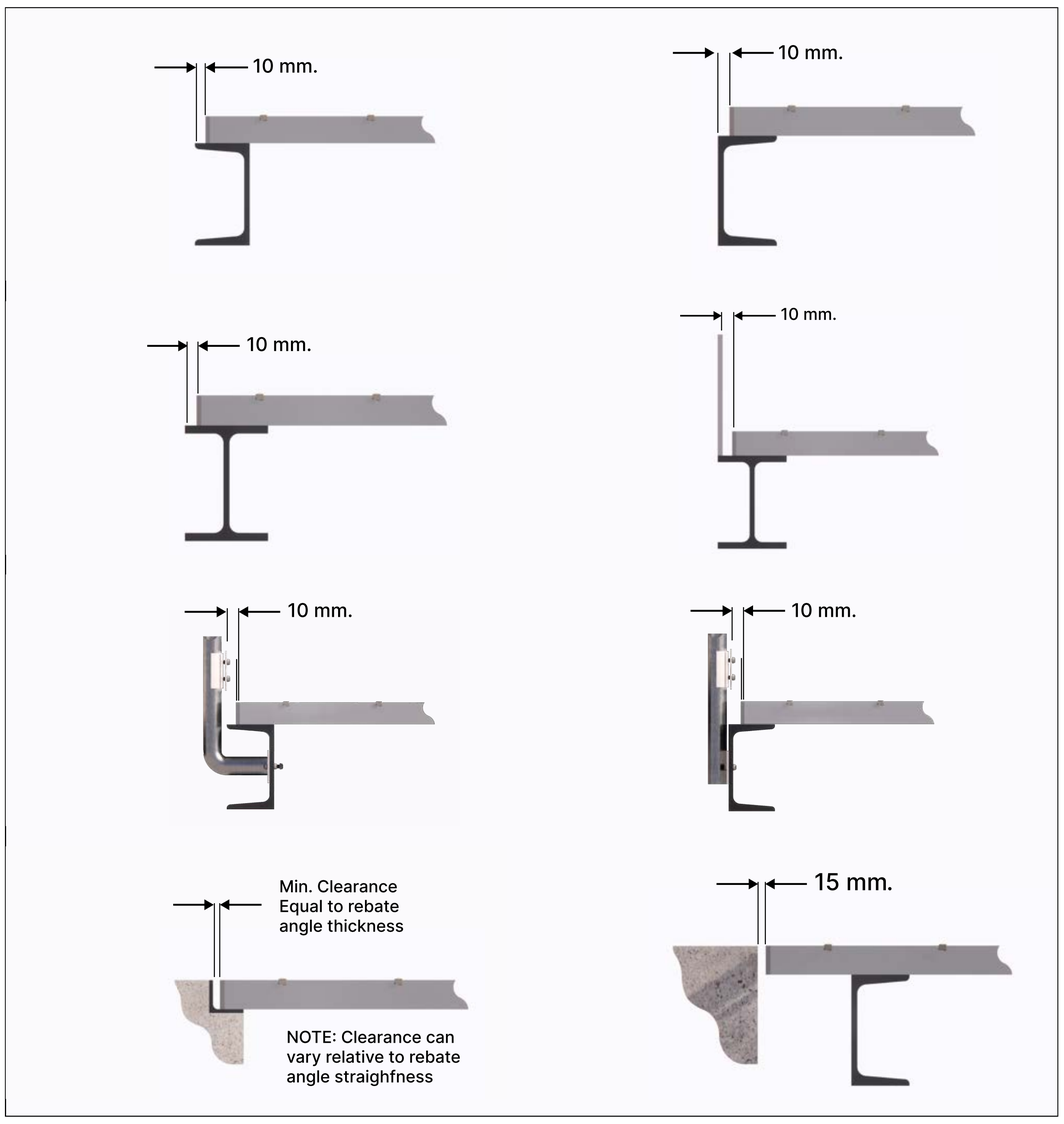
Heavy section flat bar standing nominally 100 mm. above walking surface of floor. This can be welded to the ends and sides of panels and around notches and penetrations only when specified.

SERRATIONS

Small notches made in top edge of the load to assist in skid resistance.

QUANTITY MEASUREMENTS

Gross Area: The total area of grating as shown on drawings using overall dimensions of grating including cutouts.



NET AREA

The area of flooring remaining after deducting areas cut to waste. (AxB - CxD)

GROSS AREA

The total area of flooring including areas cut to waste. (A x B).

MAP OF SIAM STEEL GRATINGS

www.ssggrating.com

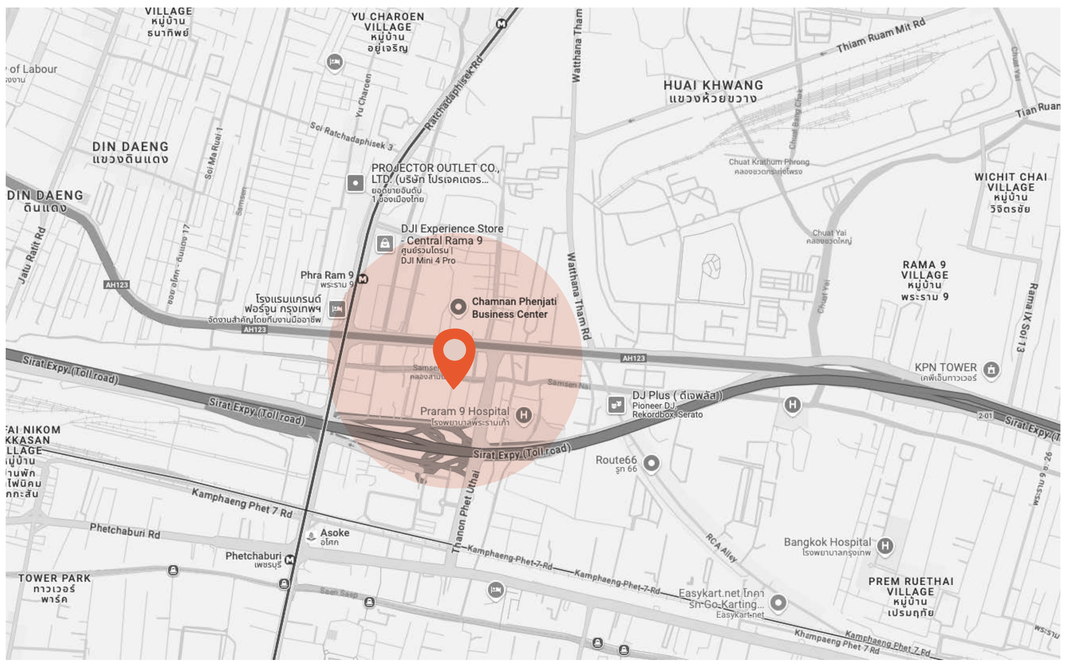
SIAM STEEL GRATINGS CO., LTD.

HEAD OFFICE

65/179 Chamnan Phenjati Business Center,
21st Floor, Rama 9 Rd., Huaykwang, Bangkok
10310, Thailand

Tel : 02 246 9988

Fax : 02 246 9944



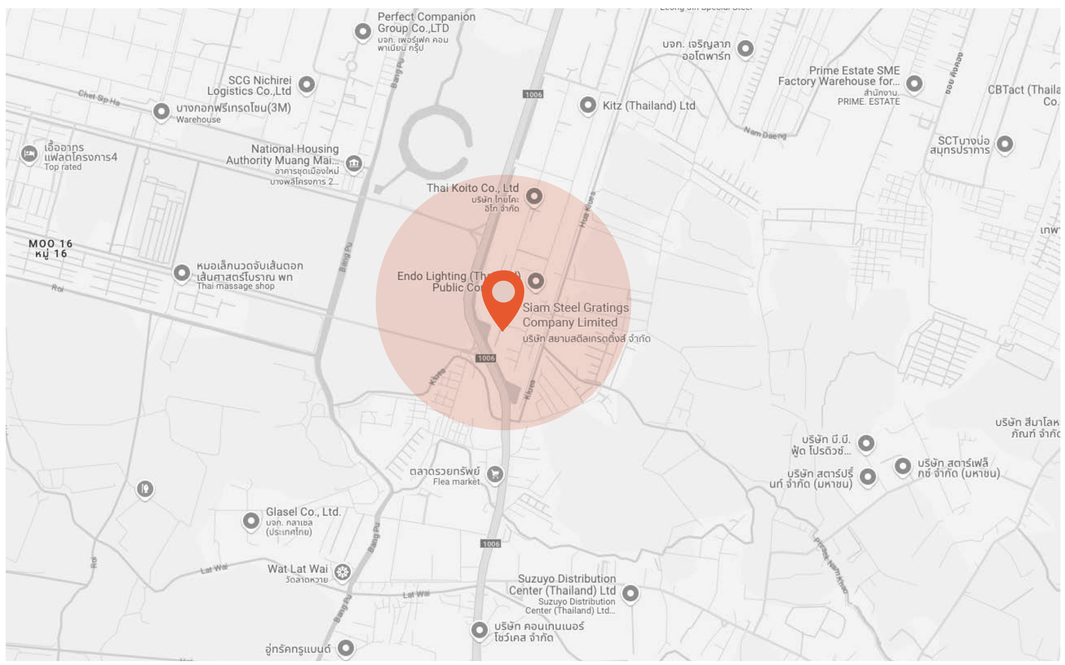
SALES OFFICE

360 Moo 17, Soi 7, Bangplee Industrial Estate,
Theparak Rd., Tambol Bangsaothong,
Amphur Bangsaothong, Samutprakarn 10570, Thailand

Tel : 02 315 2828

Fax : 02 315 2020

Email : ssgt@ssggrating.com

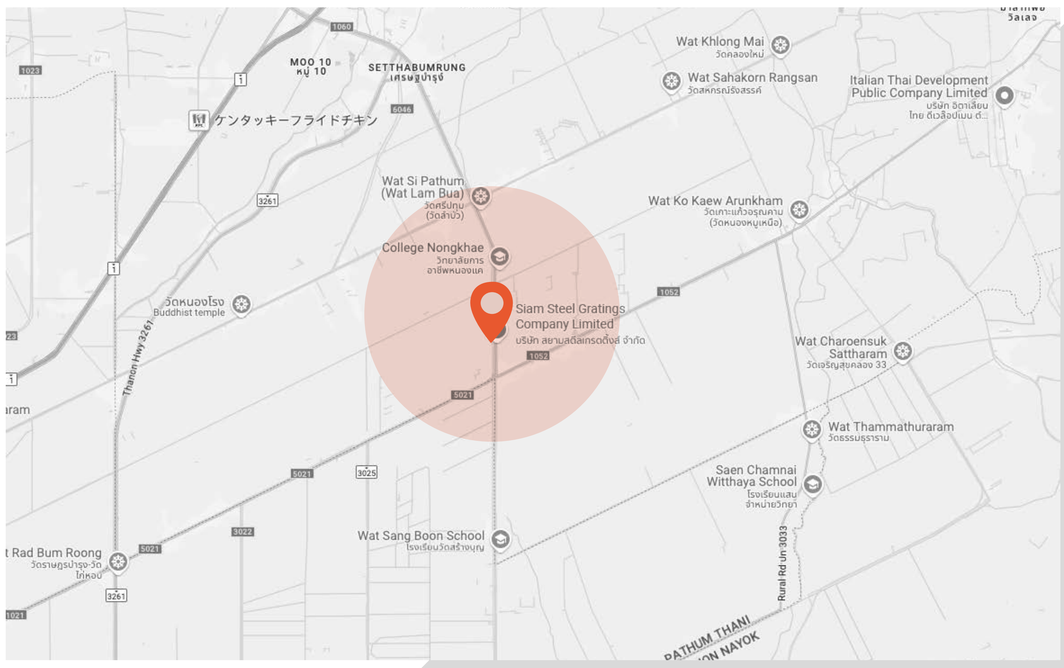


FACTORY

9/11 Moo 10 Tambol Kok-Yae, Amphur Nong Khae,
Saraburi 18230, Thailand

Tel : 036 383 500

Fax : 036 383 499



บริษัท สยามสตีลเกรตติ้งส์ จำกัด
SIAM STEEL GRATINGS CO., LTD.

LINE ID : @ssgt