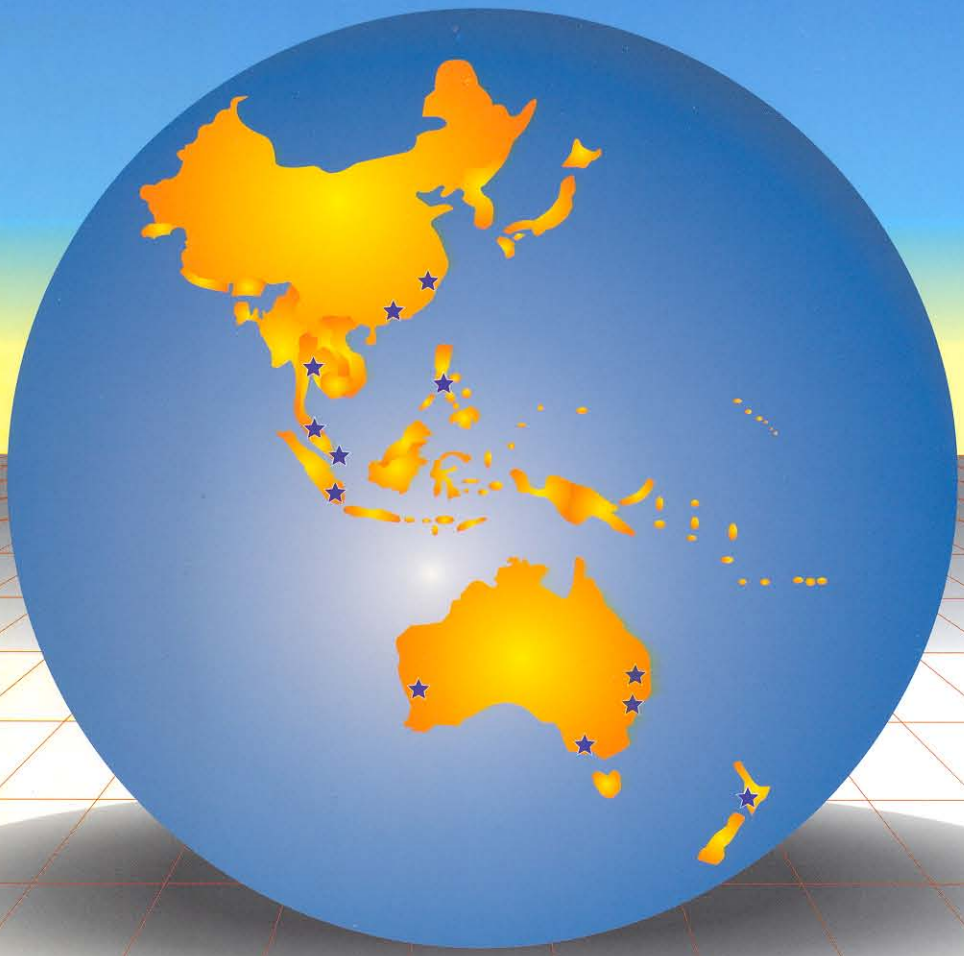
WEBFORGE

WEBGRATE

INDUSTRIAL GRATING
... Engineered to a standard

WEBFORGE



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CONTENTS

THE COMPANY

This brochure has been compiled to provide Webforge clients with the technical, design and practical data necessary for the optimum selection of Webforge grating types for a wide range of applications.

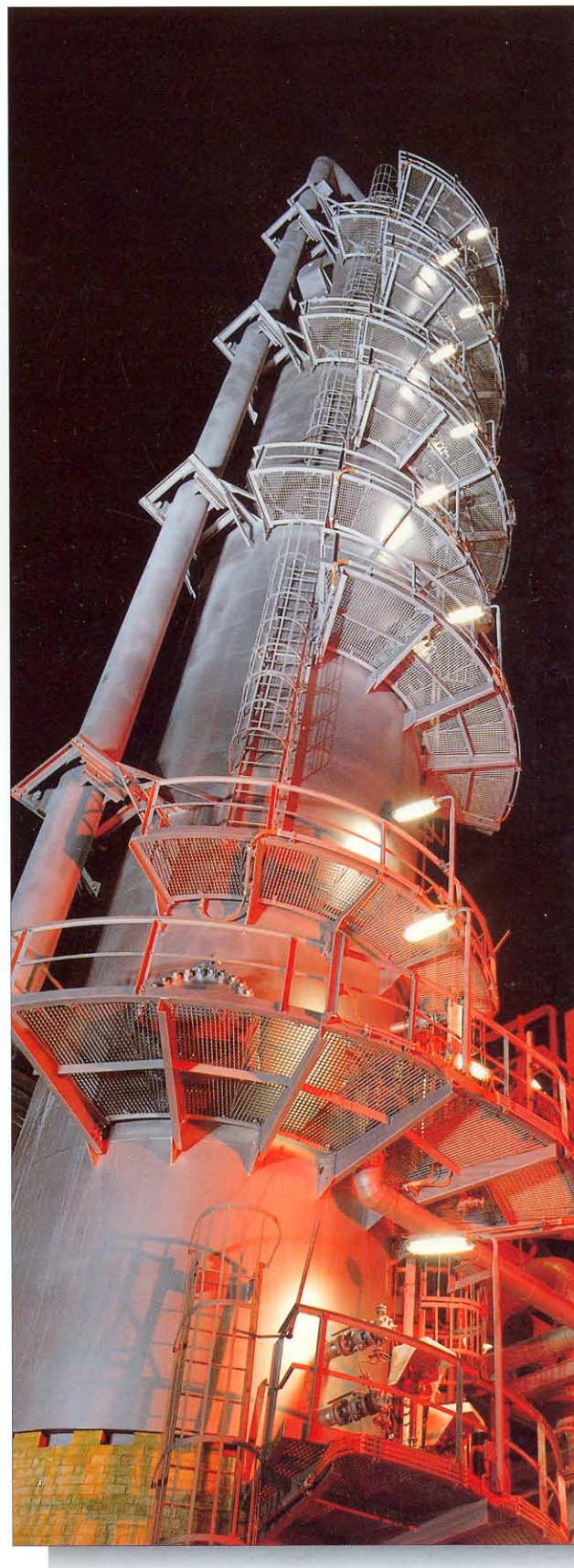
Examples are also provided showing various means of using grating to achieve the most economical and aesthetically pleasing solution to a wide range of engineering and architectural problems.

The Webforge Group has in excess of 50 years experience as a specialist manufacturer of steel grating and allied products to the various national and international standards. Manufacture is undertaken on "state of the art" equipment incorporating computerised and robotic technologies. The company is committed to a continuous process of updating such equipment to enhance customer service through product quality and delivery.

The Webforge Group is committed to meeting the requirements as set down in International Quality Standard ISO 9002 and the concept of "Total Quality Management" (TQM) to ensure the supplied product will always meet the customers requirements.

Webforge offers an engineering service in support of its product range, including the design of the most economically appropriate system for a particular application together with the provision of grating layout drawings if required.

Through its network of operations throughout Australia, New Zealand, Singapore, China and Indonesia, Webforge has the resources and experience to service a complete range of projects, whatever the complexity or size.

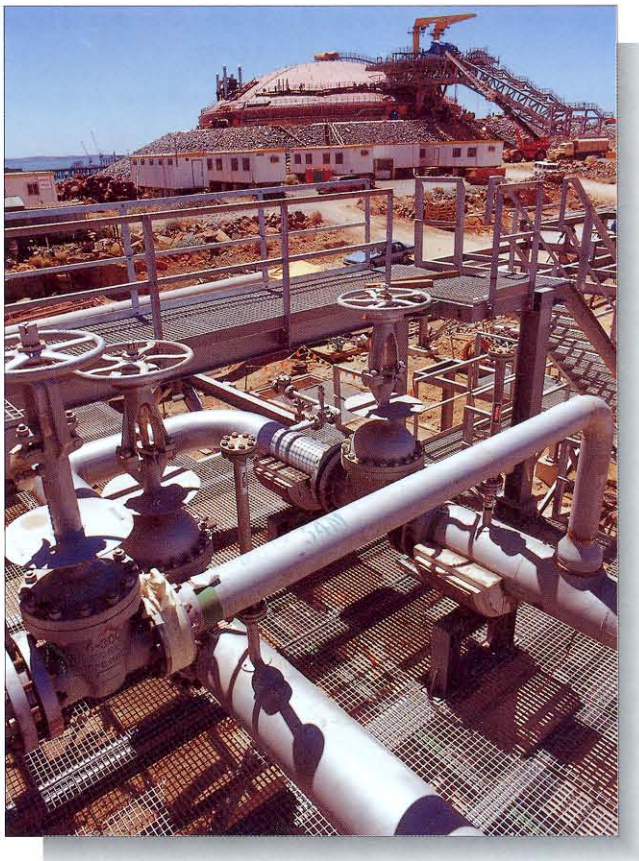


GENERAL INFORMATION

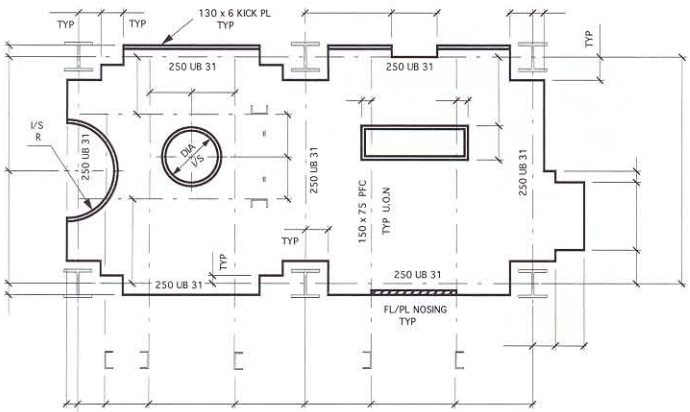
Our sales and engineering staff will answer your enquiries. Calculations are made on the basis of relevant engineering practice and codes applicable. Our staff will advise the most economical and correct type of grating to meet your needs and a full estimating service for quotations from your drawings or outlines is available.

Our quality assurance programme is in accordance with ISO9002 and is designed to suit our manufacturing process.

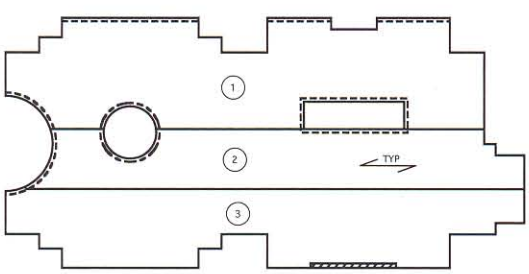
Computer control of the manufacturing schedules ensures efficient delivery, phased to meet customer requirements.

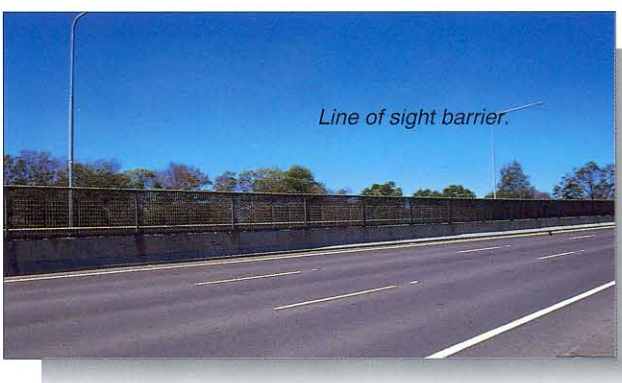


INFORMATION REQUIRED FROM THE CLIENT



GRATING LAYOUT FROM WEBFORGE





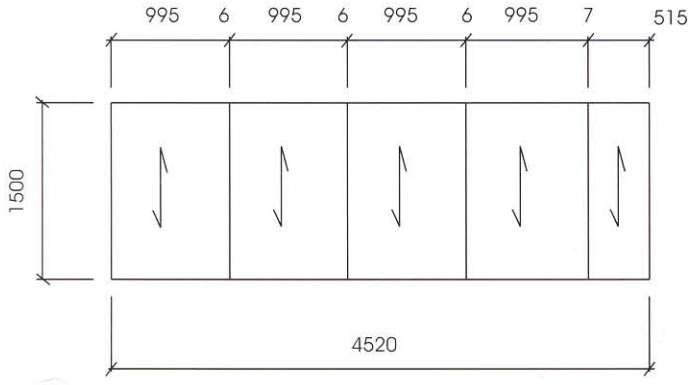
NOTE: WE MAKE MAXIMUM USE OF LONG LOAD BAR PANELS UP TO 6000 mm IN LENGTH.

ORDERING INFORMATION

- Nominate the grating type required by reference to following pages of this brochure.
- Specify whether the grating is to be banded or just cut to size.
- Non-standard welding on banding bars must be noted.
- Nominate the number of panels required and provide dimensions for width and length of each panel.
- Where large floor areas are required provide drawing of area to be covered showing:
  - (A) All dimensions.
  - (B) Load bar direction.
  - (C) Section size and location of support steel.
  - (D) Location and size of cut outs and removable areas.
  - (E) Location of kick flats, nosings and splices at penetrations.
- Specify the type of treatment required.
- Where fasteners are needed clients to indicate the type of fastening required.
- For treads nominate the type required (select from the range on page 15) and specify grating type, quantity, dimensions, treatment and snipe on end flat (if required on bolted tread).

ORDERING EXAMPLE

Supply WA325/1 Grating, banded, galvanized.
One area - 4520 x 1500 span.



Example using standard stock width of 995.
Webforge will supply the above platform made in standard stock width panels plus a narrow width panel cut to nearest load bar multiple. The balance allows for gaps between panels. ***Gaps are normally 10 mm but vary to suit the specific case.***

EXAMPLES OF ORDERING

- WEBGRATE WA255 Series 1 grating, banded, galvanized.
  12/995 x 3135 LB (Load Bar) or span.
- WEBGRATE treads WT2 (ex WA255 Series 1) galvanized.
  7/245 x 800 LB or span.
- WEBGRATE WB325 Series 2 serrated grating unbanded, bitumen dipped.
  17/925 x 5300 LB or span.
- WEBGRATE WB325 Series 2 serrated grating banded - weld both sides every second load bar, galvanized.
  40/1005 x 700 LB or span.
- Supply WEBGRATE WA403 Series 1 galvanized grating including fasteners as shown on drawing supplied.

STEEL GRATING TYPES

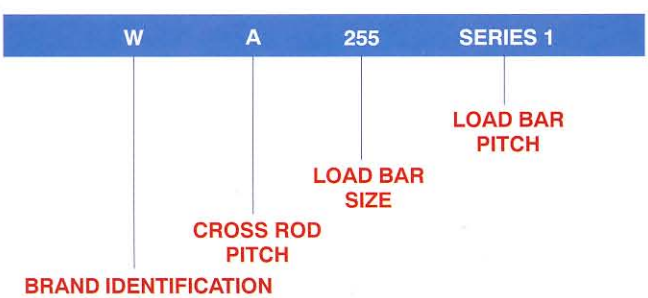
CARBON STEEL:

The load bearing bars incorporated in WEBGRATE are produced from steel which conforms to the following equivalent standards: AS3679 Grade 250, BS4360 Grade 43A, ASTM A36, JIS G3101 SS400 and GB700-88 .

WEBGRATE is manufactured in numerous combinations of load bar depth and thickness, load bar pitch and cross rod pitch. The full range of standard types of grating are shown on the following pages of this brochure. This range should cover the requirements of any customer; however, if other combinations are required, please contact our sales office.

DESIGNATION

Each WEBGRATE type is coded for easy identification as shown in the following example.



BRAND IDENTIFICATION:

Always W for WEBGRATE

CROSS ROD PITCH:

A- 100MM CRS B - 50MM CRS

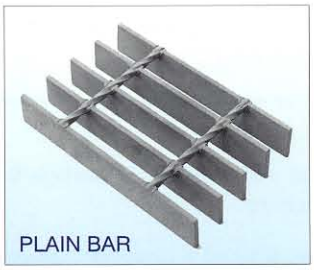
STANDARD LOAD BAR SIZES:

Ranges from 20 x 3mm to 65 x 5mm

LOAD BAR PITCH:

Series 1 - 30mm crs
Series 2 - 40mm crs
Series 3 - 60mm crs

Grating Pergola roof



PLAIN BAR

PLAIN

In its standard form WEBGRATE is supplied with plain load bearing bars and 6mm square twisted cross rods.

SERRATED

SERRATED BAR

Serrated grating is available with most standard load bearing bars. The serrations are formed by placing a series of notches along the upper edge of the load bar, thus enhancing the non-slip characteristics of the grating. When serrated grating is required it must be nominated (eg. WA325 Series 1 serrated). Use should be made of the serrated conversion factors, shown below the Load Tables, when determining load bearing and spanning capacity.

DESIGN CRITERIA

The figures shown in the Table of Loads and Deflections have been calculated in accordance with S.A.A. Steel Structures Code - AS3990 for steel having a minimum yield strength of 260 MPA as required by AS3679 Part 1.

AVAILABILITY

Stock Sheets are manufactured in a standard nominal size 1.0 metre wide x 6.0 metres long.* Other widths and lengths are available on request. The most popular grating types can usually be supplied in standard sizes direct from stock.

Our range also includes other combinations of grating.

The delivery time of fabricated panels should be confirmed when an order is placed.

TREATMENT

WEBGRATE is generally supplied in either of three standard finishes:

1) UNTREATED - no rust protection, thus allowing quicker deliveries to clients who fabricate their own grating.

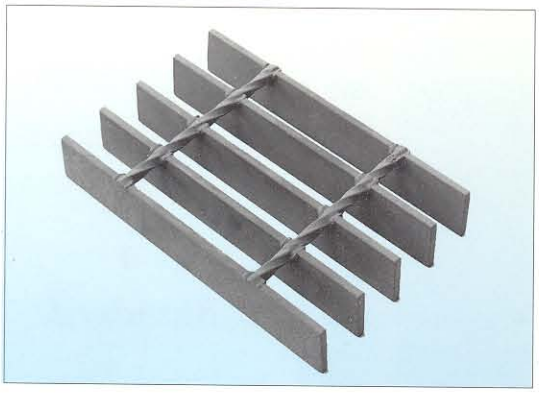
2) BLACK BITUMEN PAINT - a most economical paint finish where the grating is dipped in a tank of bitumen based paint. There is no pre treatment of the steel before dipping. This coating is most suited for indoor and dry conditions.

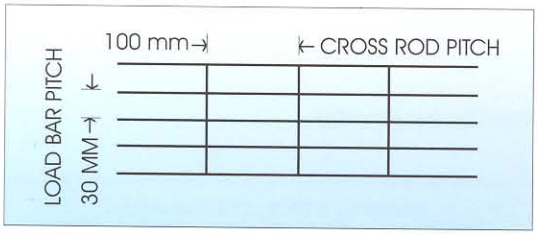
3) GALVANIZED - this finish ensures that the entire surface area is protected by a uniform layer of zinc and therefore is suitable for the majority of applications. Hot dip galvanizing conforms to the following equivalent standards: AS1650, BS729, ASTM A123 and GB2518.

The minimum average coating required by these standards is 610gms/sq metre.

SERIES 1 grating conforms to the S.A.A. Code for Fixed Platforms, Walkways, Stairway and Ladders; it is the product most specified and used throughout all sections of industry. This type of grating with its 30mm load bar centres has the greatest resistance to surface impact of the whole WEBGRATE range. It is used extensively in Power Stations, Refineries, Sewerage Treatment Plants, Grain Silos, Chemical Plants and as trafficable drain grates and stair treads. In its serrated form SERIES 1 grating is used in wet, greasy areas especially by the oil industry on offshore production platforms.

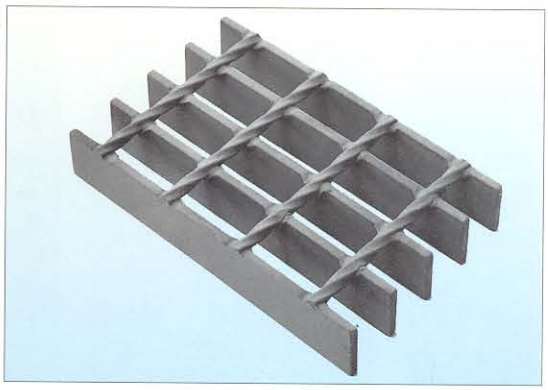
WA SERIES 1

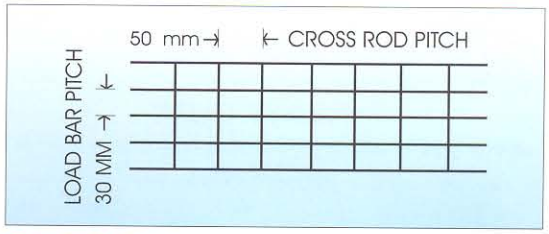




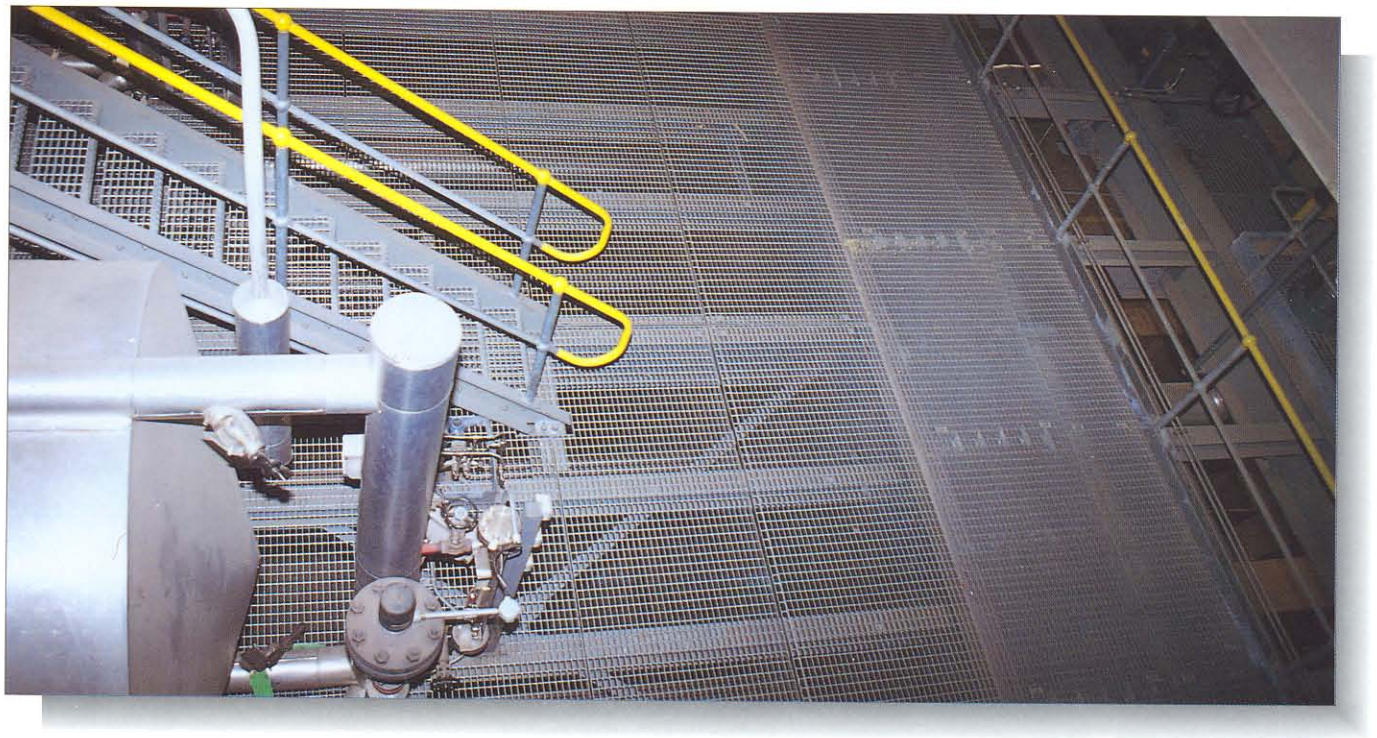
STANDARD END BANDING WELD - EVERY 5TH LOAD BAR

WB SERIES 1





STANDARD END BANDING WELD - EVERY 5TH LOAD BAR



APPLICATION SELECTION

LIGHT & MEDIUM DUTY

Maximum recommended spans (in mm)

LOAD BAR SIZE (mm)	MAINTENANCE FLOORS NO PUBLIC USE UDL = 2.5 kPa Deflection = 5 mm			PEDESTRIAN TRAFFIC PUBLIC, RESIDENTIAL AND LIGHT USE UDL = 3 kPa Deflection = 5 mm			PEDESTRIAN TRAFFIC PUBLIC, COMMERCIAL AND CROWD USE UDL = 4 kPa Deflection = 5 mm		
	SERIES 1	SERIES 2	SERIES 3	SERIES 1	SERIES 2	SERIES 3	SERIES 1	SERIES 2	SERIES 3
20 x 3	1190	1110	1000	1140	1060	960	1060	980	890
25 x 3	1410	1310	1180	1350	1250	1130	1250	1170	1050
32 x 3	1700	1580	1430	1620	1510	1360	1510	1400	1270
40 x 3	2010	1870	1690	1920	1780	1610	1780	1660	1500
25 x 4.5	1560	1450	1310	1490	1390	1250	1390	1290	1170
32 x 4.5	1880	1750	1580	1790	1670	1510	1670	1550	1400
38 x 4.5	2140	1990	1800	2040	1900	1720	1900	1770	1600
20 x 5	1350	1260	1140	1290	1200	1090	1200	1120	1010
25 x 5	1600	1490	1350	1530	1420	1290	1420	1320	1200
32 x 5	1930	1790	1620	1840	1710	1550	1710	1590	1440
35 x 5	2060	1920	1730	1970	1830	1660	1830	1710	1540
38 x 5	2190	2040	1840	2100	1950	1760	1950	1820	1640
40 x 5	2280	2120	1920	2180	2030	1830	2030	1890	1700

WEBGRATE INDUSTRIAL GRATING ... Engineered to a Standard.

HEAVY DUTY

Maximum recommended spans (in mm)

LOAD BAR SIZE (mm)	GENERAL FACTORIES AND WORKSHOPS, MOTOR ROOMS, WHEEL TROLLEYS UDL = 5 kPa						GENERAL HEAVY LOADING AREAS, BOILER EQUIPMENT, HEAVY EQUIPMENT AREAS UDL = 7.5 kPa					
	Deflection = 5 mm			Deflection = 10 mm			Deflection = 5 mm			Deflection = 10 mm		
	SERIES 1	SERIES 2	SERIES 3	SERIES 1	SERIES 2	SERIES 3	SERIES 1	SERIES 2	SERIES 3	SERIES 1	SERIES 2	SERIES 3
25 x 4.5	1310	1220	1100	1560	1450	1310	1180	1100	1000	1410	1310	1180
32 x 4.5	1580	1470	1330	1880	1750	1580	1430	1330	1200	1700	1580	1430
38 x 4.5	1800	1670	1510	2140	1990	1800	1620	1510	1360	1930	1800	1620
25 x 5	1350	1250	1130	1600	1490	1350	1220	1130	1020	1450	1350	1220
32 x 5	1620	1510	1360	1930	1790	1620	1460	1360	1230	1740	1620	1460
35 x 5	1730	1610	1460	2060	1920	1730	1570	1460	1320	1860	1730	1570
38 x 5	1840	1720	1550	2190	2040	1840	1670	1550	1400	1980	1840	1670
40 x 5	1920	1780	1610	2280	2120	1920	1730	1610	1460	2060	1920	1730
45 x 5	2090	1950	1760	2490	2320	2090	1890	1760	1590	2250	2090	1890
50 x 5	2270	2110	1910	2700	2510	2270	2050	1910	1720	2440	2270	2050
55 x 5	2440	2270	2050	2900	2700	2440	2200	2050	1850	2620	2440	2200
65 x 5	2760	2570	2320	3290	3060	2760	2490	2320	2100	2970	2760	2490
■ 75 x 5	3080	2860	2590	3660	3400	3080	2780	2590	2340	3300	3080	2780
■ 75 x 6	3220	3000	2710	3830	3560	3220	2910	2710	2440	3460	3220	2910

■ *These sections are utilized for specific applications and are available from selected Webforge Companies. Please refer to your nearest sales office for further information.*

TABLE OF LOADS AND DEFLECTIONS — SERIES 1

THE WEIGHT OF FABRICATED GRATING INCREASES DUE TO ADDITION OF FITTINGS, ATTACHMENTS AND TREATMENT EG. BANDING AND GALVANIZING INCREASE THE WEIGHT BY APPROXIMATELY 12%.

Asian Edition

TYPE	Cross Rod Pitch (mm)	Mass (kg/m²)	Load Bar Size (mm)		SPAN - Millimetres 150	300	450	600	750	900	1050	1200	1500	1800	2100	2400	2700	3000	3300	3600
WA203/1	100	18.8	20 x 3	U	402	100	45	25	16	11	8	6	4	3	2					
WB203/1	50	21.7		D	0.20	0.80	1.81	3.22	5.03	7.24	9.85	12.87	20.11	28.96	39.41					
WA205/1	100	29.5	20 x 5	U	671	167	74	42	27	18	13	10	6	4	3					
WB205/1	50	32.3		D	0.20	0.80	1.81	3.22	5.03	7.24	8.85	12.87	20.11	28.96	39.41					
WA253/1	100	22.8	25 x 3	U	629	157	70	39	25	17	13	10	6	4	3	2				
WB253/1	50	25.7		D	0.16	0.64	1.45	2.57	4.02	5.80	7.88	10.30	16.09	23.17	31.53	41.18				
WA254.5/1	100	32.9	25 x 4.5	U	953	238	106	59	38	26	19	15	9	6	5	3				
WB254.5/1	50	35.8		D	0.16	0.64	1.45	2.57	4.02	5.79	7.88	10.30	16.09	23.17	31.53	41.18				
WA255/1	100	36.2	25 x 5	U	1048	262	115	65	42	29	21	16	10	7	5	4				
WB255/1	50	39.0		D	0.16	0.64	1.45	2.57	4.02	5.79	7.88	10.30	16.09	23.17	31.53	41.18				
WA323/1	100	28.4	32 x 3	U	1031	257	114	64	41	28	21	16	10	7	5	4	3			
WB323/1	50	31.3		D	0.13	0.50	1.13	2.01	3.14	4.52	6.16	8.04	12.57	18.10	24.63	32.18	40.72			
WA324.5/1	100	41.3	32 x 4.5	U	1562	390	173	97	62	43	31	24	15	10	8	6	4			
WB324.5/1	50	44.2		D	0.13	0.50	1.13	2.01	3.14	4.52	6.16	8.04	12.57	18.10	24.63	32.18	40.72			
WA325/1	100	45.5	32 x 5	U	1718	429	190	107	68	47	35	26	17	11	8	6	5			
WB325/1	50	48.4		D	0.13	0.50	1.13	2.01	3.14	4.52	6.16	8.04	12.57	18.10	24.63	32.18	40.72			
WA403/1	100	34.9	40 x 3	U	1610	402	179	100	64	44	33	25	16	11	8	6	5	4		
WB403/1	50	37.7		D	0.10	0.40	0.90	1.61	2.51	3.62	4.93	6.44	10.05	14.48	19.71	25.74	32.58	40.22		
WA355/1	100	49.6	35 x 5	U	2076	519	230	129	83	57	42	32	20	14	10	8	6			
WB355/1	50	52.5		D	0.11	0.46	1.03	1.84	2.87	4.14	5.63	7.35	11.49	16.55	22.52	29.42	37.23			
WA384.5/1	100	48.5	38 x 4.5	U	2202	550	244	137	88	61	44	34	22	15	11	8	6			
WB384.5/1	50	51.4		D	0.11	0.42	0.95	1.69	2.65	3.81	5.19	6.77	10.58	15.24	20.74	27.09	34.29			
WA385/1	100	53.6	38 x 5	U	2447	611	271	152	97	67	49	38	24	16	12	9	7	6		
WB385/1	50	56.5		D	0.11	0.42	0.95	1.69	2.65	3.81	5.19	6.77	10.58	15.24	20.74	27.09	34.29	42.34		
WA405/1	100	56.2	40 x 5	U	2684	671	298	167	107	74	54	41	26	18	13	10	8	6		
WB405/1	50	59.0		D	0.10	0.40	0.90	1.61	2.51	3.62	4.93	6.44	10.05	14.48	19.71	25.74	32.58	40.22		
WA455/1	100	62.9	45 x 5	U	3397	849	377	212	135	94	69	52	33	23	17	13	10	8	6	
WB455/1	50	65.7		D	0.09	0.34	0.80	1.43	2.23	3.22	4.38	5.72	8.94	12.87	17.52	22.88	28.96	35.75	43.26	
WA505/1	100	69.6	50 x 5	U	4194	1048	465	261	167	116	85	65	41	28	21	16	12	10	8	7
WB505/1	50	72.4		D	0.08	0.32	0.72	1.29	2.01	2.90	3.94	5.15	8.04	11.58	15.77	20.59	26.06	32.18	38.93	46.33
WA655/1	100	89.6	65 x 5	U	7088	1771	787	442	283	196	144	110	70	48	35	27	21	17	14	11
WB655/1	50	92.4		D	0.06	0.25	0.56	0.99	1.55	2.23	3.03	3.96	6.19	8.91	12.13	15.84	20.05	24.75	29.95	35.64

NOTE: Spans to the left of the heavy line have a deflection of less than 5 mm for a 4 kPa uniformly distributed load, which is a limiting deflection for pedestrian comfort.

NOMINAL ⁰/A DIMENSION OF BARS (in mm)

No. of Bars	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
5mm Load Bars	95	125	155	185	215	245	275	305	335	365	395	425	455	485	515	545	575	605	635	665
No. of Bars	24	25	26	27	28	29	30	31	32	33	34									
5mm Load Bars	695	725	755	785	815	845	875	905	935	965	995									

NOTE:
- For 3mm load bars subtract 2mm from widths.
- Width dimensions can vary due to manufacturing process.

Standard width.

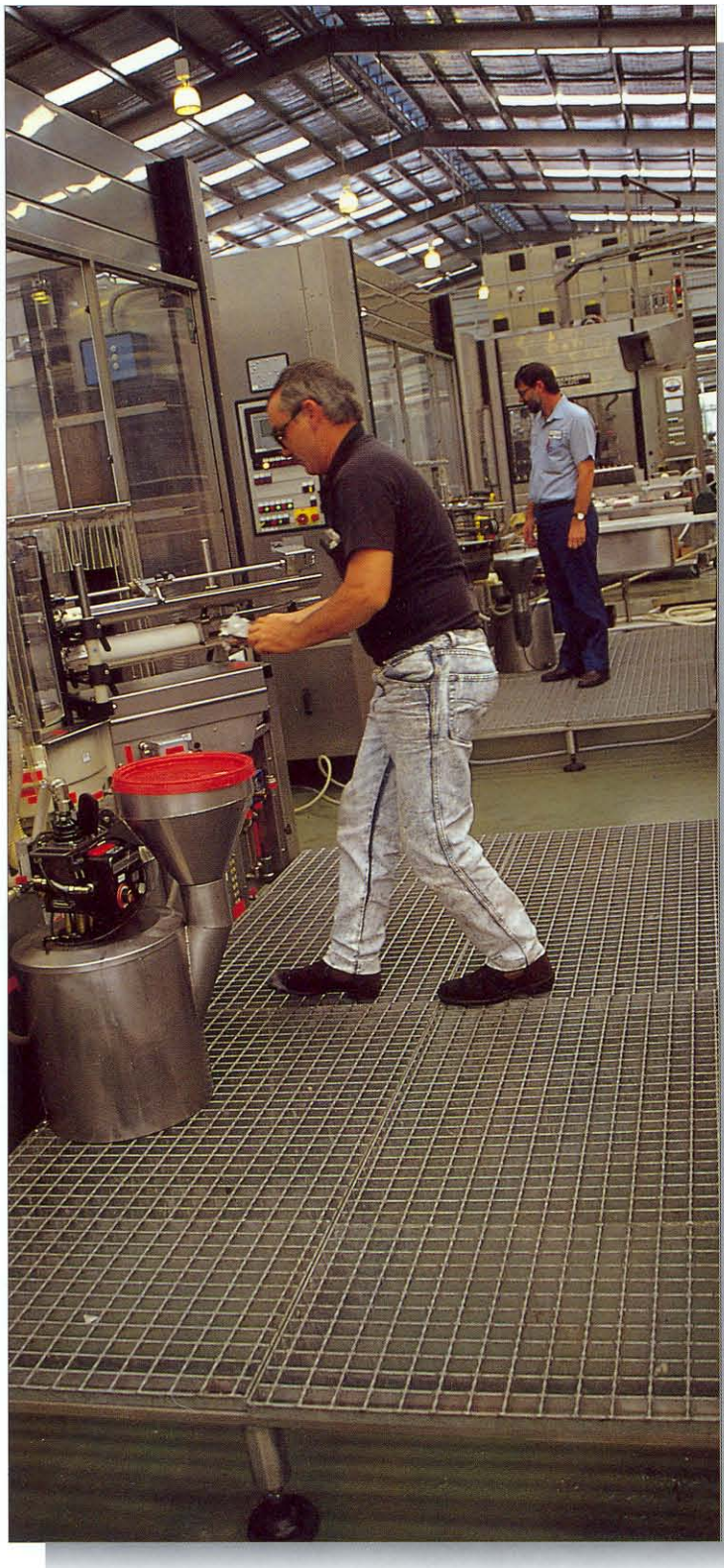
SERRATED CONVERSION FACTORS

Load Bar	20 x 3	20 x 5	25 x 3	25 x 4.5	25 x 5	32 x 3	32 x 4.5	32 x 5	35 x 4.5	35 x 5	38 x 5	40 x 3	40 x 5	45 x 5	50 x 5	65 x 5
Load	Not recommended		0.79	0.79	0.79	0.83	0.83	0.83	0.85	0.85	0.86	0.87	0.87	0.88	0.89	0.92
Deflection			1.12	1.12	1.12	1.09	1.09	1.09	1.08	1.08	1.07	1.07	1.07	1.07	1.06	1.04

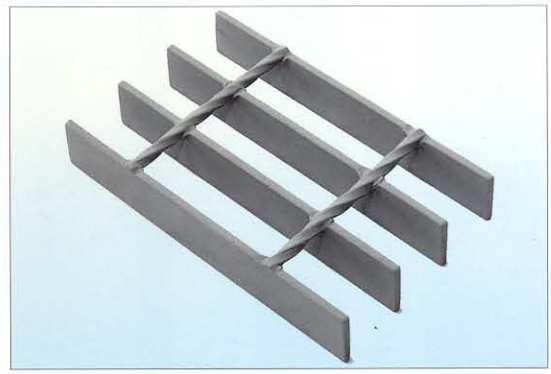
LOAD TABLE DATA

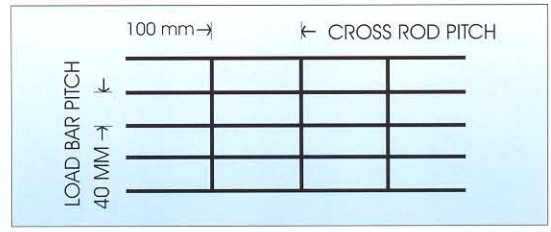
- U = Safe superimposed uniformly distributed load in kilopascals.
- D = Deflection in millimetres.
- Mass calculated with grating in an untreated condition.
- Loads calculated in accordance with an allowable bending stress 171.6 MPa (0.66 Fy).
- Load bars are assumed simply supported and unserrated steel with Fy = 260 MPa.

SERIES 2 grating is a most economical and lighter weight grating than Series 1, conforming to the requirements of the S.A.A. Code for Fixed Platforms, Walkways, Stairways and Ladders. This product is ideal in areas of short spans and even loading such as conveyor walkways. Uses include storage shelves, mezzanine floors, catwalks, security grilles and sun screens.



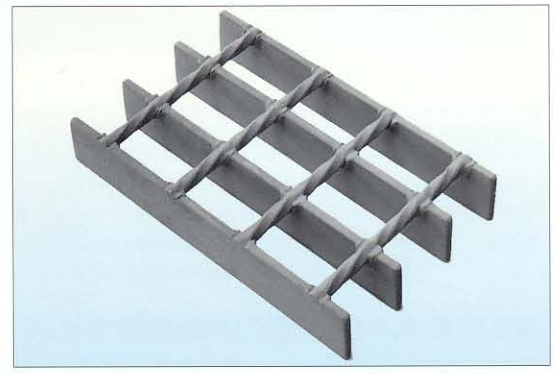
WA SERIES 2

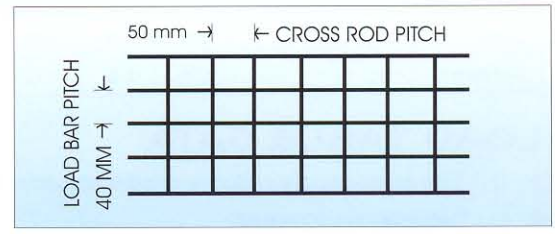




STANDARD END BANDING WELD - EVERY 4TH LOAD BAR

WB SERIES 2





STANDARD END BANDING WELD - EVERY 4TH LOAD BAR

TABLE OF LOADS AND DEFLECTIONS — SERIES 2

THE WEIGHT OF FABRICATED GRATING INCREASES DUE TO ADDITION OF FITTINGS, ATTACHMENTS AND TREATMENT EG. BANDING AND GALVANIZING INCREASE THE WEIGHT BY APPROXIMATELY 14%.

Asian Edition

TYPE	Cross Rod Pitch (mm)	Mass (kg/m2)	Load Bar Size (mm)		SPAN - Millimetres 150	300	450	600	750	900	1050	1200	1500	1800	2100	2400	2700	3000	3300	3600
WA203/2	100	14.6	20 x 3	U	305	76	34	19	12	8	6	5	3	2	1					
WB203/2	50	17.4		D	0.20	0.80	1.80	3.21	5.02	7.23	9.85	12.87	20.10	28.95	39.41					
WA205/2	100	22.5	20 x 5	U	508	127	56	32	20	14	10	8	5	3	2					
WB205/2	50	25.3		D	0.20	0.80	1.80	3.21	5.02	7.23	9.85	12.87	20.10	28.95	39.41					
WA253/2	100	17.5	25 x 3	U	476	119	53	30	19	13	10	7	5	3	2	2				
WB253/2	50	20.4		D	0.16	0.64	1.44	2.57	4.02	5.79	7.88	10.29	16.08	23.16	31.53	41.18				
WA254.5/2	100	25.4	25 x 4.5	U	715	178	79	44	28	20	14	11	7	5	3	3				
WB254.5/2	50	28.3		D	0.16	0.64	1.45	2.57	4.02	5.79	7.88	10.30	16.09	23.17	31.53	41.18				
WA255/2	100	27.4	25 x 5	U	794	198	88	49	31	22	16	12	8	5	4	3				
WB255/2	50	30.2		D	0.16	0.64	1.44	2.57	4.02	5.79	7.88	10.29	16.08	23.16	31.53	41.18				
WA323/2	100	21.7	32 x 3	U	781	195	87	49	31	21	16	12	8	5	4	3	2			
WB323/2	50	24.5		D	0.12	0.50	1.13	2.01	3.14	4.52	6.16	8.04	12.56	18.9	24.63	32.17	40.72			
WA324.5/2	100	31.7	32 x 4.5	U	1171	293	130	73	47	32	24	18	11	8	6	4	3			
WB324.5/2	50	34.6		D	0.13	0.50	1.13	2.01	3.14	4.52	6.15	8.04	12.57	18.10	24.63	32.18	40.72			
WA325/2	100	34.2	32 x 5	U	1301	325	144	81	52	36	26	20	13	9	6	5	4			
WB325/2	50	37.1		D	0.12	0.50	1.13	2.01	3.14	4.52	6.15	8.04	12.56	18.09	24.63	32.17	40.72			
WA403/2	100	26.4	40 x 3	U	1220	305	135	76	49	34	25	19	12	8	6	4	3	3		
WB403/2	50	29.2		D	0.10	0.40	0.90	1.61	2.51	3.62	4.93	6.44	10.05	14.48	19.71	25.74	32.58	40.22		
WA355/2	100	37.9	35 x 5	U	1557	389	173	97	62	43	31	24	15	10	8	6	4			
WB355/2	50	40.8		D	0.11	0.46	1.03	1.84	2.87	4.14	5.63	7.35	11.49	16.55	22.52	29.42	37.23			
WA384.5/2	100	37.1	38 x 4.5	U	1652	413	183	103	66	45	33	25	16	11	8	6	5			
WB384.5/2	50	40.0		D	0.11	0.42	0.95	1.69	2.65	3.81	5.19	6.77	10.58	15.24	20.74	27.09	34.29			
WA385/2	100	40.9	38 x 5	U	1835	458	204	114	73	51	37	28	18	12	9	7	5	4		
WB385/2	50	43.8		D	0.11	0.42	0.95	1.69	2.65	3.81	5.19	6.77	10.58	15.24	20.74	27.09	34.29	42.34		
WA405/2	100	42.1	40 x 5	U	2033	508	226	127	81	56	41	31	20	14	10	8	6	5		
WB405/2	50	44.9		D	0.10	0.40	0.90	1.60	2.51	3.61	4.92	6.43	10.05	14.47	19.70	25.74	32.57	40.21		
WA455/2	100	47.0	45 x 5	U	2574	643	286	160	102	71	52	40	25	17	13	10	7	6	5	
WB455/2	50	49.8		D	0.08	0.35	0.80	1.43	2.23	3.21	4.37	5.72	8.93	12.87	17.51	22.88	28.95	35.75	43.25	
WA505/2	100	51.9	50 x 5	U	3177	794	353	198	127	88	64	49	31	22	16	12	9	7	6	5
WB505/2	50	54.7		D	0.08	0.32	0.72	1.28	2.01	2.89	3.94	5.14	8.04	11.58	15.76	20.59	26.06	32.17	38.93	46.33
WA655/2	100	66.6	65 x 5	U	5370	1342	596	335	214	149	109	83	53	37	27	20	16	13	10	9
WB655/2	50	69.4		D	0.06	0.25	0.56	0.99	1.55	2.23	3.03	3.96	6.19	8.91	12.13	15.84	20.05	24.75	29.95	35.64

NOTE: Spans to the left of the heavy line have a deflection of less than 5 mm for a 4 kPa uniformly distributed load, which is a limiting deflection for pedestrian comfort.

NOMINAL °/A DIMENSION OF BARS (in mm)

No. of Bars	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
5mm Load Bars	125	165	205	245	285	325	365	405	445	485	525	565	605	645	685
No. of Bars	19	20	21	22	23	24	25	26							
5mm Load Bars	725	765	805	845	885	925	965	1005							

NOTE:
- For 3mm load bars subtract 2mm from widths.
- Width dimensions can vary due to manufacturing process.

Standard width.

SERRATED CONVERSION FACTORS

Load Bar	20 x 3	20 x 5	25 x 3	25 x 4.5	25 x 5	32 x 3	32 x 4.5	32 x 5	35 x 4.5	35 x 5	38 x 5	40 x 3	40 x 5	45 x 5	50 x 5	65 x 5
Load	Not recommended		0.79	0.79	0.79	0.83	0.83	0.83	0.85	0.85	0.86	0.87	0.87	0.88	0.89	0.92
Deflection			1.12	1.12	1.12	1.09	1.09	1.09	1.08	1.08	1.07	1.07	1.07	1.07	1.06	1.04

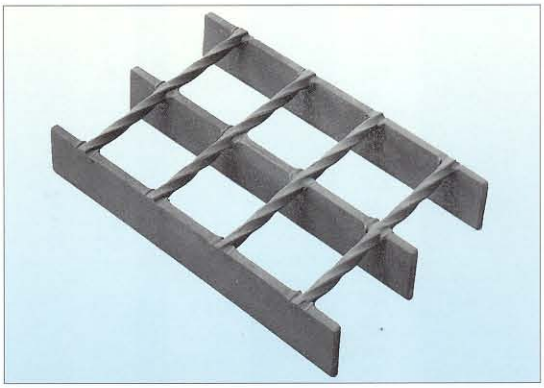
LOAD TABLE DATA

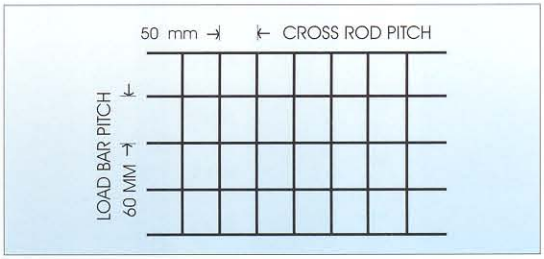
- U = Safe superimposed uniformly distributed load in kilopascals.
- D = Deflection in millimetres.
- Mass calculated with grating in an untreated condition.
- Loads calculated in accordance with an allowable bending stress 171.6 MPa (0.66 Fy).
- Load bars are assumed simply supported and unserrated steel with Fy = 260 MPa.

MINING INDUSTRY

SERIES 3 grating has been specifically developed for the mining industry where spillage of material onto floors is a problem. The large square openings (nominally 60 x 50) allow most materials to fall through the grating, thus keeping the walking surface clear and safe. This product is frequently specified for floors and conveyor walkways in crusher buildings, ball mills, process plants and transfer stations.

WB SERIES 3





STANDARD END BANDING WELD - EVERY 3RD LOAD BAR

NOTE:

Safe loads and deflections are in accordance with the design requirements of AS3990-1993.

The opening size exceeds requirements of AS1657.

TABLE OF LOADS AND DEFLECTIONS — SERIES 3

THE WEIGHT OF FABRICATED GRATING INCREASES DUE TO ADDITION OF FITTINGS, ATTACHMENTS AND TREATMENT EG. BANDING AND GALVANIZING INCREASE THE WEIGHT BY APPROXIMATELY 16%.

Asian Edition

TYPE	Cross Rod Pitch (mm)	Mass (kg/m²)	Load Bar Size (mm)		SPAN - Millimetres 150	300	450	600	750	900	1050	1200	1500	1800	2100	2400	2700	3000	3300	3600
WB205/3	50	19.0	20 x 5	U	325	81	36	20	13	9	6	5	3	2	1					
				D	0.20	0.80	1.81	3.21	5.02	7.23	9.85	12.87	20.10	28.95	39.41					
WB253/3	50	15.7	25 x 3	U	305	76	34	19	12	8	6	5	3	2	1	1				
				D	0.16	0.64	1.44	2.57	4.02	5.79	7.88	10.29	16.08	23.16	31.53	41.18				
WB254.5/3	50	20.8	25 x 4.5	U	476	119	53	30	19	13	10	7	5	3	2	2				
				D	0.16	0.64	1.45	2.57	4.02	5.79	7.88	10.30	16.09	23.17	31.53	41.18				
WB255/3	50	22.3	25 x 5	U	508	127	56	32	20	14	10	8	5	3	2	2				
				D	0.16	0.64	1.44	2.57	4.02	5.79	7.88	10.29	16.08	23.16	31.55	41.18				
WB323/3	50	18.5	32 x 3	U	500	125	55	31	20	14	10	8	5	3	2	2	1			
				D	0.12	0.50	1.13	2.01	3.14	4.52	6.15	8.04	12.56	18.09	24.63	32.17	40.72			
WB324.5/3	50	25.0	32 x 4.5	U	781	195	87	49	31	21	16	12	8	5	4	3	2			
				D	0.13	0.50	1.13	2.01	3.14	4.52	6.16	8.04	12.57	18.10	24.63	32.18	40.72			
WB325/3	50	27.0	32 x 5	U	833	208	92	52	33	23	17	13	8	6	4	3	2			
				D	0.12	0.50	1.13	2.01	3.14	4.52	6.15	8.04	12.56	18.09	24.63	32.17	40.72			
WB403/3	50	21.7	40 x 3	U	781	195	87	49	31	21	16	12	8	5	4	3	2	2		
				D	0.10	0.40	0.90	1.60	2.51	3.62	4.92	6.43	10.05	14.47	19.70	25.74	32.57	40.21		
WB355/3	50	29.1	35 x 5	U	1038	259	115	65	41	29	21	16	10	7	5	4	3			
				D	0.11	0.46	1.03	1.84	2.87	4.14	5.63	7.35	11.49	16.55	22.52	29.42	37.23			
WB384.5/3	50	28.6	38 x 4.5	U	1101	275	122	69	44	30	22	17	11	7	5	4	3			
				D	0.11	0.42	0.95	1.69	2.65	3.81	5.19	6.77	10.58	15.24	20.74	27.09	34.29			
WB385/3	50	31.1	38 x 5	U	1223	306	136	76	49	34	25	19	12	8	6	4	3	3		
				D	0.11	0.42	0.95	1.69	2.65	3.81	5.19	6.77	10.58	15.24	20.74	27.09	34.29	42.34		
WB405/3	50	32.3	40 x 5	U	1301	325	144	81	52	36	26	20	13	9	6	5	4	3		
				D	0.10	0.40	0.90	1.60	2.51	3.62	4.92	6.43	10.05	14.47	19.70	25.74	32.57	40.21		
WB455/3	50	35.7	45 x 5	U	1647	411	183	103	66	45	33	25	16	11	8	6	5	4	3	
				D	0.08	0.35	0.80	1.43	2.23	3.21	4.37	5.72	8.93	12.87	17.51	22.88	28.95	35.75	43.25	
WB505/3	50	39.0	50 x 5	U	2033	508	226	127	81	56	41	31	20	14	10	8	6	5	4	
				D	0.08	0.32	0.72	1.28	2.01	2.89	3.94	5.14	8.04	11.58	15.76	20.59	26.06	32.17	38.93	
WB655/3	50	49.0	65 x 5	U	3437	859	381	214	137	95	70	53	34	23	17	13	10	8	7	5
				D	0.06	0.24	0.55	0.99	1.54	2.22	3.03	3.96	6.18	8.91	12.12	15.84	20.04	24.75	29.94	35.64

NOTE: Spans to the left of the heavy line have a deflection of less than 5 mm for a 4 kPa uniformly distributed load, which is a limiting deflection for pedestrian comfort.

NOMINAL °/A DIMENSION OF BARS (in mm)

No. of Bars	3	4	5	6	7	8	9	10	11	12	13	14
5mm Load Bars	125	185	245	305	365	425	485	545	605	665	725	785
No. of Bars	15	16	17	18								
5mm Load Bars	845	905	965	1025								

NOTE:
- For 3mm load bars subtract 2mm from widths.
- Width dimensions can vary due to manufacturing process.

Standard width.

SERRATED CONVERSION FACTORS

Load Bar	20 x 3	20 x 5	25 x 3	25 x 4.5	25 x 5	32 x 3	32 x 4.5	32 x 5	35 x 4.5	35 x 5	38 x 5	40 x 3	40 x 5	45 x 5	50 x 5	65 x 5
Load	Not recommended		0.79	0.79	0.79	0.83	0.83	0.83	0.85	0.85	0.86	0.87	0.87	0.88	0.89	0.92
Deflection			1.12	1.12	1.12	1.09	1.09	1.09	1.08	1.08	1.07	1.07	1.07	1.07	1.06	1.04

LOAD TABLE DATA

- U = Safe superimposed uniformly distributed load in kilopascals.
- D = Deflection in millimetres.
- Mass calculated with grating in an untreated condition.
- Loads calculated in accordance with an allowable bending stress 171.6 MPa (0.66 Fy).
- Load bars are assumed simply supported and unserrated steel with Fy = 260 MPa.

STAIR TREADS

WEBGRATE treads can be made from any type of grating and to any dimensions which suit the relevant stairway.

In the interest of economy we suggest that the recommended widths and lengths be used wherever possible.

NOTE: TWIST RODS ARE PURPOSELY NON ALIGNED FOR SAFETY REASONS.

WELDED fixing, Banded ends, no nosing.

BOLTED fixing, Holed end plates, No nosing.

WELDED fixing, Banded ends, Floor plate nosing.

BOLTED fixing, Holed end plates, Floor plate nosing.

WELDED fixing, Banded ends, Abrasive nosing.

BOLTED fixing, Holed end plates, Abrasive nosing.

WELDED fixing, Banded ends, Perforated plate nosing.

BOLTED fixing, Holed end plates, Perforated plate nosing.

TREAD DIMENSIONS

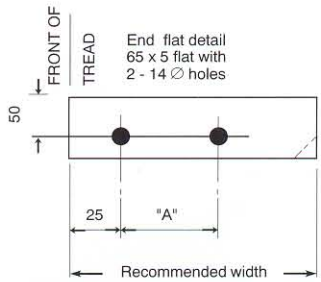
RECOMMENDED WIDTHS *(Based on 5mm load bars).**							
Type WT1 to WT8	SERIES 1	125	155	185	215	245	275	305
Type WT1 to WT8	SERIES 2	125	165		205	245	285	325
Type WT1 to WT8	SERIES 3	125		185		245		305
BOLTED CONNECTIONS								
BOLT HOLE CRS 'A'		45	75	75	100	100	125	125

** For other bar thicknesses, adjust width accordingly.*

RECOMMENDED MAX. LENGTHS

LOAD BAR SIZE	25 x 3	25 x 5	32 x 5	40 x 5
SERIES 1	550	900	1300	1600
SERIES 2	450	750	1200	1500
SERIES 3		550	850	1350

WHEN ORDERING A TREAD THE GRATING TYPE MUST BE NOMINATED
E.G. WT6 (ex WA 325 Series 1)



NOTE: Special end flats and holing available on request

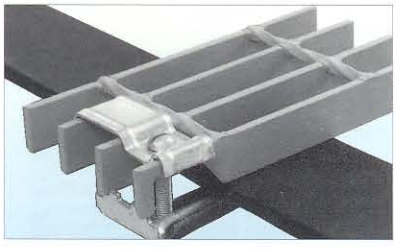
FASTENING METHODS

Grating can either be welded or clamped to the supporting steelwork by the erection contractor.

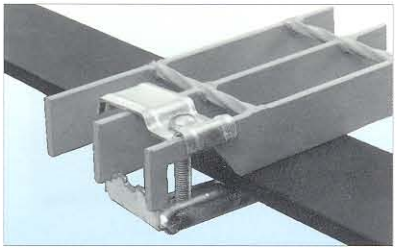
The fastener (clip) has been designed to secure either Series 1, 2 or 3 grating patterns.

Where no flange is available on the supporting steelwork the fastener top can be used with self drilling or thread cutting screws.

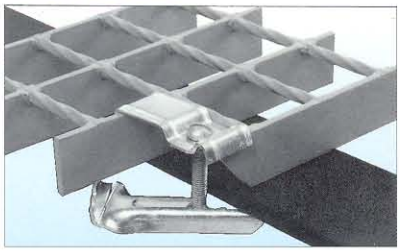
SERIES 1 Grating



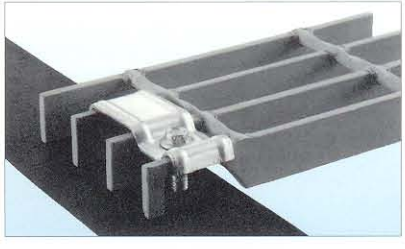
SERIES 2 Grating



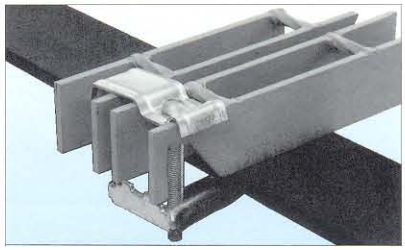
SERIES 3 Grating



Fastener only and thread cutting screw.



Fastener used to secure two adjacent panels.

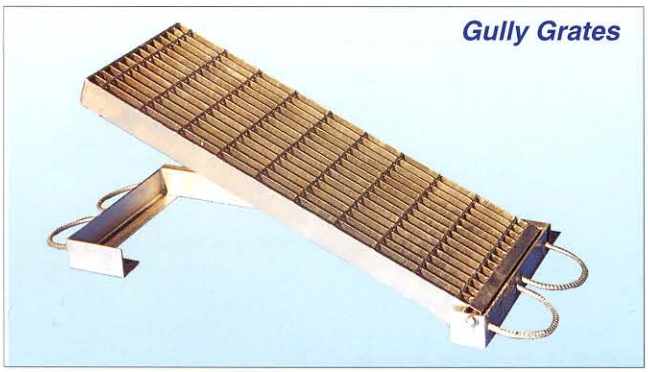


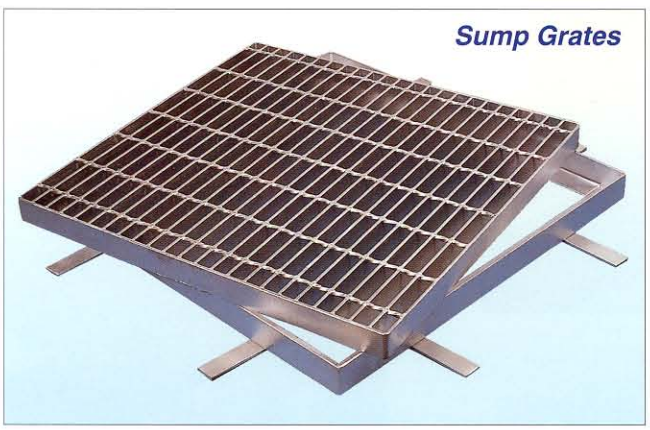
WEBDRAIN

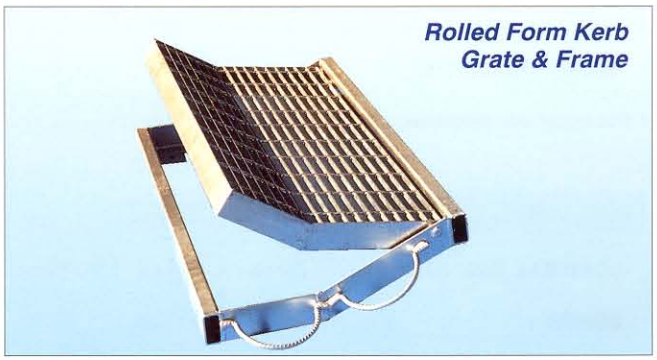
Webforge's extensive range of WEBDRAIN quality grates and frames have been developed in order to offer a totally complete drainage system.

All grates are hot dipped galvanized for superior finish and extended life. The entire range has been designed with a view to maximising the grate open area thus achieving a hydraulically efficient grate.

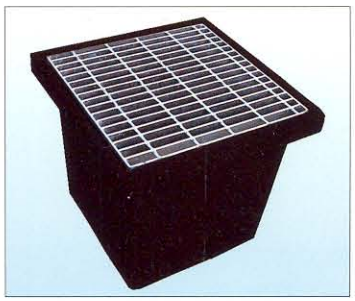
All Webforge Drainage Products are bicycle safe in accordance with AS3996.







SUMP/PIT GRATE



- Stormwater
- Sewer Collection
- Reflux Pits
- Electrical Pits

EAZI-WALK GRATE

SUPER PERFORMANCE WITH SAFETY & STRENGTH

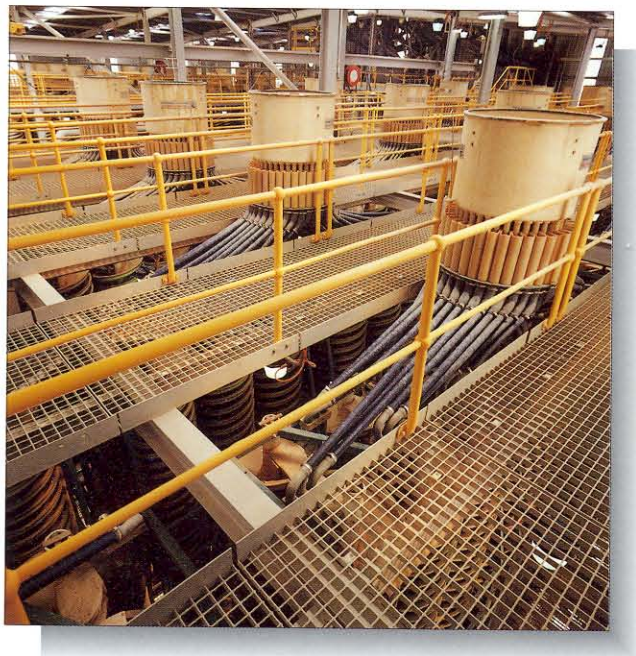
Eazi-Walk Drainage Grating, with its 10mm gap between bars, is easily the best and safest for comfortable walking in areas of heavy pedestrian use.

Please contact our sales office for additional details or a comprehensive catalogue.

OTHER PRODUCTS

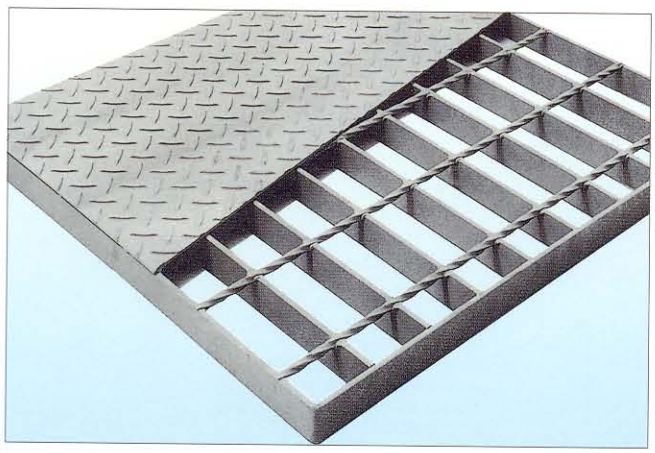
MONOWILLS

The handrail system is an economical, strong and simple form of handrailing. Specifically manufactured to suit the Australian code and local conditions, this original and unique tubular system is manufactured in Australia to meet the requirements of an ever increasing range of industrial, municipal and general applications.



WEBPLATE

Webplate combines the spanning ability of grating and the solid surface of floor plate in one product.



WEBSTOCK

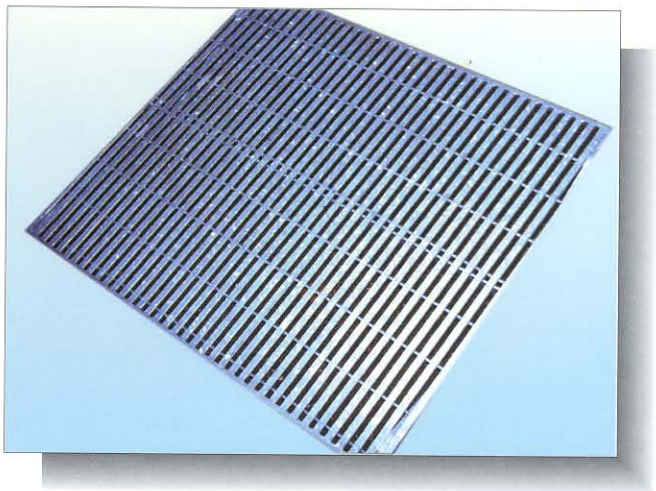
Webstock provides the answer for a totally clean and long life animal flooring.

Webstock's fluted triangular section provides an easy approach to cleanability of livestock flooring whilst minimising the requirement of water pressure, heat and labour input.

The unique triangular bar shape provides extra strength and rigidity and reduced hoof slip.

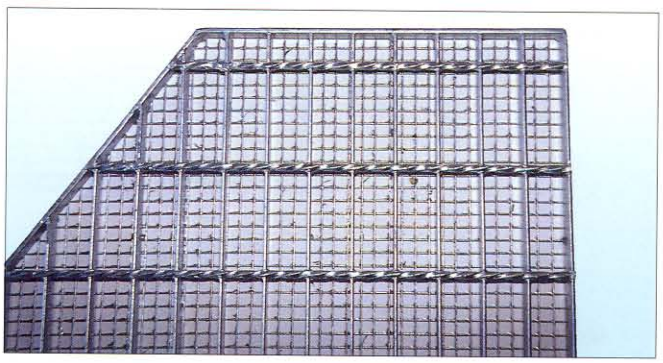
Easy and economical to install and update.

Webstock has been designed to span unsupported distances in excess of (2) two metres by utilizing a simple and inexpensive truss arrangement.



WEBMESH

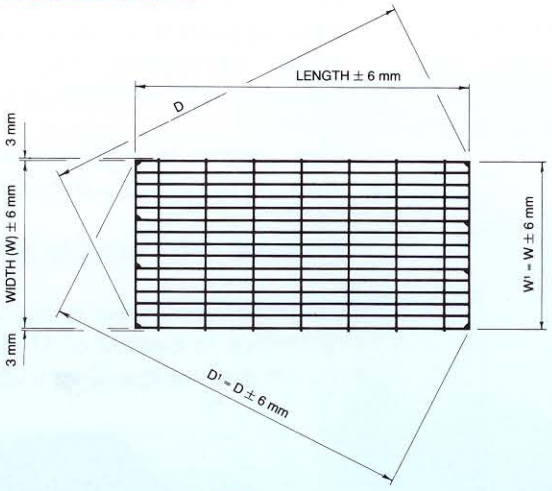
Welded on top or underneath panels, when required, to prevent passage of tools and equipment.



Please contact our sales office for additional details or a comprehensive catalogue.

MANUFACTURING TOLERANCES

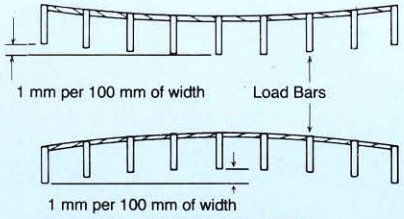
ALL DIMENSIONS ARE MAXIMUM PERMISSABLE TOLERANCES



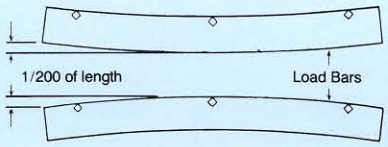
Fabrication welding.
Banding bars and attachments are welded with minimum 3 mm fillet to one side of:
every 5th load bar on Series 1 grating.
every 4th load bar on Series 2 grating.
every 3rd load bar on Series 3 grating.

D & D^1 are overall diagonal dimensions.

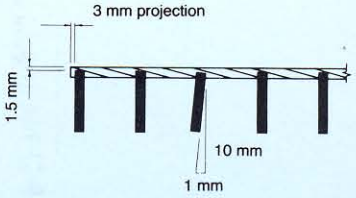
W & W^1 are overall dimensions across the Load Bars at opposite ends of panel.



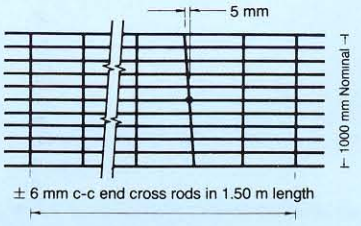
TRANSVERSE BOW
(before fastening to supports)



LONGITUDINAL BOW



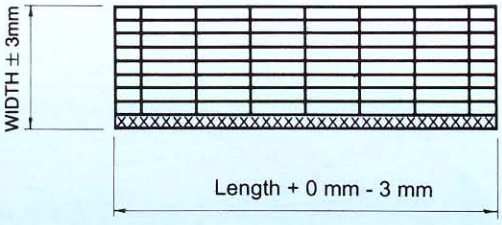
CROSS ROD LOCATION AND LOAD BAR LEAN



CROSS ROD ALIGNMENT AND SPACING

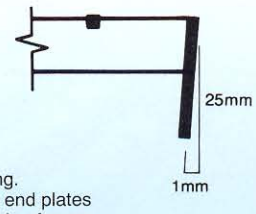
STAIR TREAD TOLERANCES

OVERALL DIMENSIONS



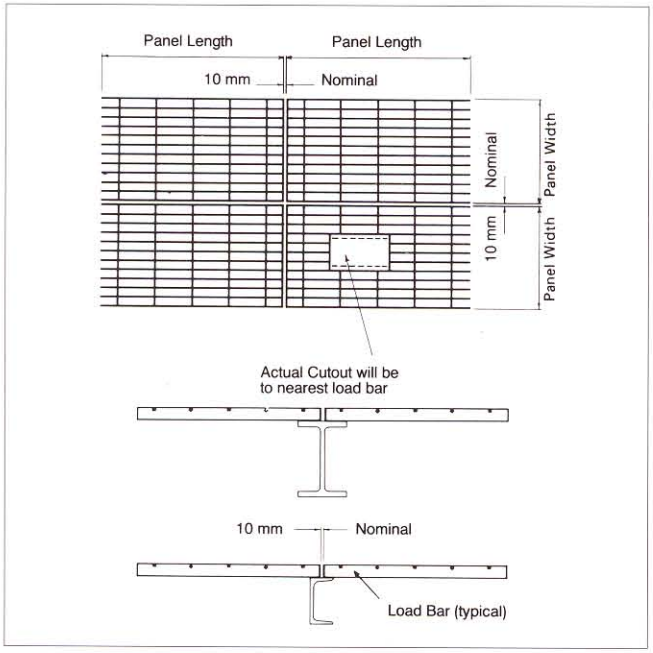
NOTE: Length of tread is distance between outer faces of the End Flats.

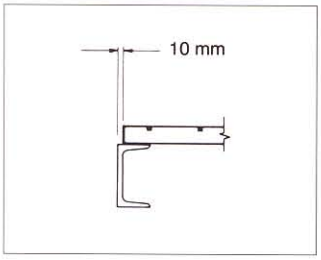
END FLAT LEAN

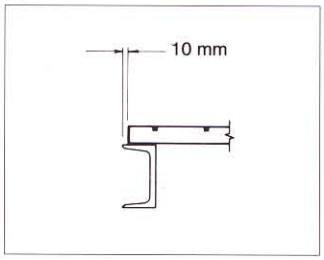


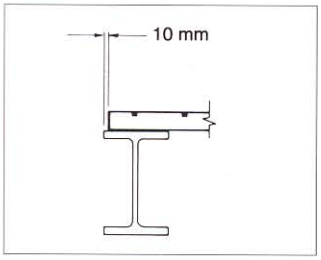
Fabrication welding.
Banding bars and end plates are welded one side of every load bar with a minimum 3mm fillet weld.

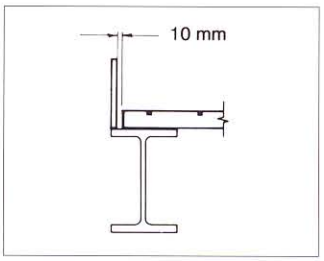
INSTALLATION CLEARANCES

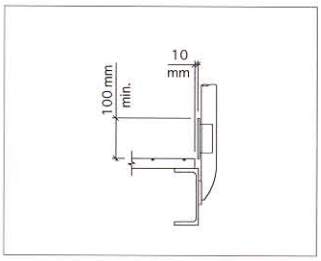


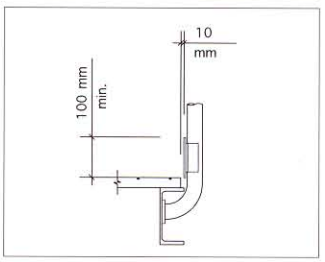


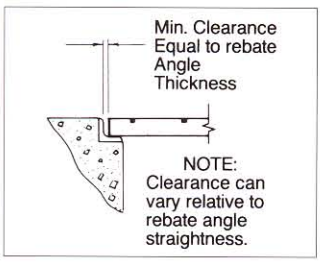


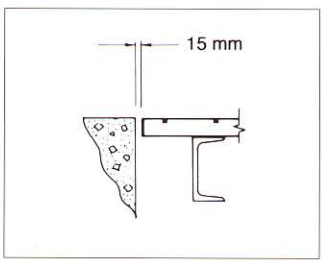




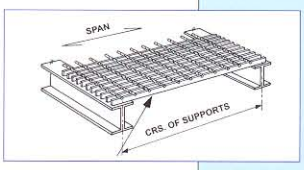




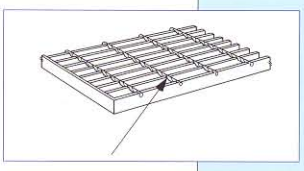




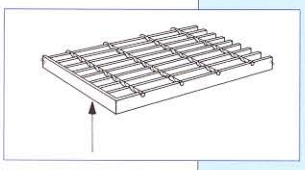
GLOSSARY OF TERMS



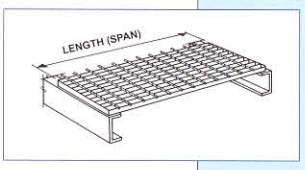
LOAD BAR (Bearing Bar)
Uniform load carrying bar spanning across supporting members.



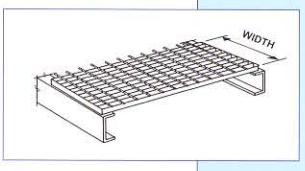
CROSS BAR (Twist Bar)
Uniform rod, in square twisted steel, forged into and at right angles to the load bar.



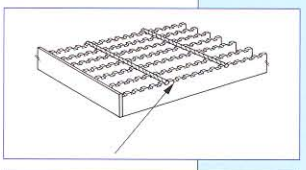
EDGE BAR (Banding Bar)
Trimming bar, generally of same size as and, welded to ends of load bars across panel ends and around notches and penetrations (if any).



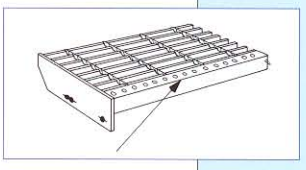
LENGTH OF PANEL (Span)
Overall dimension of a panel measured parallel with load bars.
(Indicated by ⟷ symbol).



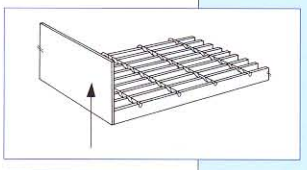
WIDTH OF PANEL
Overall dimension of a panel measured at right angles to the load bars. (Always called "Width" even if greater than the length.



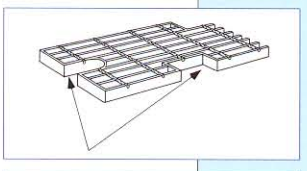
SERRATIONS
Small notches made in the top edge of the load bar to assist in skid resistance.



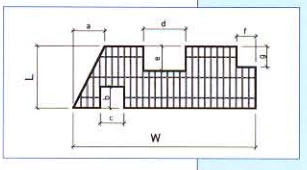
NOSING BAR
A member attached to or on the leading edge of a stair tread to assist in skid resistance.



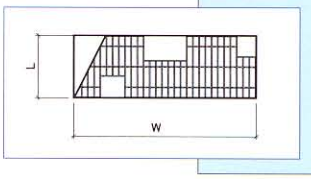
KICK PLATE
Heavy section flat bar welded to ends or sides of panels and around cut-outs, etc., when specified. Top edge to be 100mm above grating generally.



CUT OUTS
Grating areas removed from panel to permit passage or installation of pipes, plant, and structural and handrail items.



NETT AREA
The area of a panel (W x L) excluding cutouts.



GROSS AREA
The total area of grating as shown on drawings using overall dimensions of grating including cutouts.

WEBFORGE

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The Webforge group of companies are committed to a management system which incorporates the principles of the international quality standard ISO 9002

A QUALITY COMMITTED COMPANY
(ISO 9002)

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