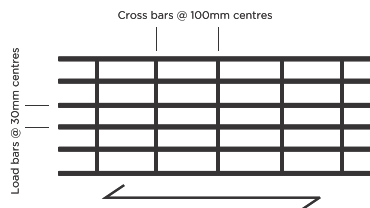


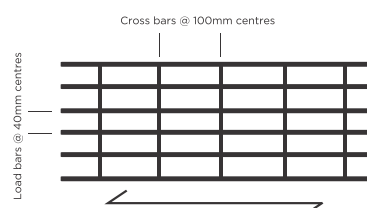


MILD STEEL GRATING

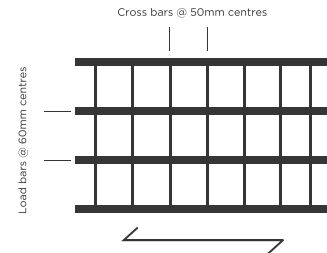
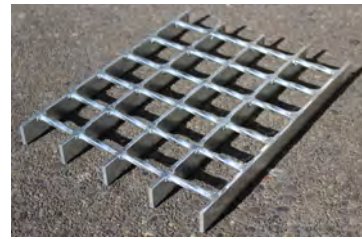
SERIES 1



SERIES 2



SERIES 3



MATERIALS

Mild Steel grating load bars are manufactured from steel that complies with AS/NZS 3679 G250 or better.

TOP SURFACE

Typically supplied with a plain surface. On our most popular products a Serrated surface (S) is also available. Please refer to the loading charts in this section of the catalogue to see which Mild Steel grating types are available with a Serrated surface.

- The **"S"** at the end of the code represents a **S**errated surface, no notation represents a plain surface. Grating will be assumed plain surface unless **S** is dictated at the end of the product code or is clearly specified as Serrated. Eg- 255/1S or 255/1 Serrated

FINISH

- **Black** (untreated/raw) finish (**U**)
- **Hot dip galvanised** finish to meet the requirements of AS/NZS 4680 (**G**)
- **Powder coated** finish (**P**)

STANDARD SHEET SIZE

- Series 1 grating: 995mm (wide) x 5800mm (span)
- Series 2 grating: 1005mm (wide) x 5800mm (span)
- Series 3 grating: 965mm (wide) x 5800mm (span)

**Standard panel widths may vary slightly to what is indicated as there are minor manufacturing tolerances allowable during the process of manufacturing grating.*

Sizes above state grating manufactured from 5mm load bars (for 3mm load bar full panel width please -2mm off the sizes eg- 993mm wide for series 1 and 1003mm wide for series 2) .Please review the load bar spacing chart on page **51 of this catalogue for all nearest load bar dimensions for grating products.*

MILD STEEL GRATING QUICK REFERENCE LOAD CHARTS

SERIES 1 GRATING

Product Code	Load Bar Size (mm)	Maximum Span (mm) for various Loads with 5.00mm Deflections			
		5mm deflection span @2.5kPa	5mm deflection span @4kPa	5mm deflection span @ 5kPa	5mm deflection span @7.5kPa
203/1	20 x 3	1204	1070	1012	915
205/1	20 x 5	1368	1216	1150	1039
253/1	25 x 3	1423	1265	1197	1081
255/1	25 x 5	1617	1438	1360	1229
255/1S	25 x 5 serrated	1494	1328	1256	1135
323/1	32 x 3	1712	1523	1440	1301
325/1	32 x 5	1946	1730	1636	1478
325/1S	32 x 5 serrated	1830	1628	1539	1391
403/1	40 x 3	2024	1800	1702	1538
405/1	40 x 5	2300	2045	1934	1748
405/1S	40 x 5 serrated	2213	1968	1861	1682
455/1	45 x 5	2513	2234	2113	1909
505/1	50 x 5	2719	2418	2287	2066
655/1	65 x 5	3310	2943	2784	2515

SERIES 2 GRATING

Product Code	Load Bar Size (mm)	Maximum Span (mm) for various Loads with 5.00mm Deflections			
		5mm deflection span @2.5kPa	5mm deflection span @4kPa	5mm deflection span @ 5kPa	5mm deflection span @7.5kPa
*203/2	20 x 3	1120	996	942	851
205/2	20 x 5	1273	1132	1070	967
253/2	25 x 3	1324	1177	1114	1006
255/2	25 x 5	1505	1338	1265	1143
255/2S	25 x 5 serrated	1390	1236	1169	1056
*323/2	32 x 3	1594	1417	1340	1211
325/2	32 x 5	1811	1610	1523	1376
325/2S	32 x 5 serrated	1703	1515	1432	1294
*403/2	40 x 3	1884	1675	1584	1431
405/2	40 x 5	2140	1903	1800	1626
*405/2S	40 x 5 serrated	2060	1831	1732	1565
*455/2	45 x 5	2338	2079	1966	1777
*505/2	50 x 5	2530	2250	2128	1923

SERIES 3 GRATING

Product Code	Load Bar Size (mm)	Maximum Span (mm) for various Loads with 5.00mm Deflections			
		5mm deflection span @2.5kPa	5mm deflection span @4kPa	5mm deflection span @ 5kPa	5mm deflection span @7.5kPa
*255/3	25 x 5	1360	1209	1143	1033
*255/3S	25 x 5 serrated	1256	1117	1056	955
325/3	32 x 5	1636	1455	1376	1243
325/3S	32 x 5 serrated	1539	1369	1294	1170

- 2.5 kPa, 5mm deflection- Light use for access and working, AS 1657
- 4 kPa, 5mm deflection- High / Repetitive use, AS/NZS 1170
- 5 kPa, 5mm deflection - High / Repetitive use with placement of objects and tools (infrequent), AS/NZS 1170
- 7.5 kPa, 5mm deflection - High / Repetitive use with placement of objects and tools (frequent), AS/NZS 1170
- *product is low use (held in small quantities or not commonly stocked) please contact Steel Grating Ltd for information on quantities regarding these items

SERIES 1: MILD STEEL GRATING LOAD CHART

SAFE LOAD AND DEFLECTION TABLE

Product Code	Load Bar Size (mm)	Mass (kg/sqm)		Span (mm)- maximum allowable Q load (kPa) under strength design												Span (mm) for 5mm deflection at 4kPa
				450	600	750	900	1050	1200	1500	1800	2100	2400	2700	3000	
203/1	20 x 3	18.526	U	43.28	24.26	15.46	10.68	7.80								1070
			D	1.69	3.02	5.90	10.19	16.18								
			D4	0.16	0.49	1.21	2.50	4.63								
205/1	20 x 5	28.993	U	72.14	40.46	25.79	17.82	13.02	9.90							1216
			D	1.69	3.00	4.66	6.68	9.71	14.49							
			D4	0.09	0.30	0.72	1.50	2.78	4.74							
253/1	25 x 3	22.451	U	67.68	37.97	24.22	16.76	12.25	9.33							1265
			D	1.35	2.40	3.74	5.36	8.28	12.36							
			D4	0.08	0.25	0.62	1.28	2.37	4.05							
255/1	25 x 5	35.534	U	112.82	63.31	40.39	27.94	20.44	15.57							1438
			D	1.35	2.40	3.74	5.37	7.27	9.45							
			D4	0.05	0.15	0.37	0.77	1.42	2.43							
255/IS	25 x 5 serrated	32.264	U	91.35	51.25	32.68	22.60	16.52	12.57							1328
			D	1.50	2.67	4.16	5.95	8.06	10.47							
			D4	0.07	0.21	0.51	1.05	1.95	3.33							
323/1	32 x 3	27.946	U	110.98	62.30	39.78	27.54	20.16	15.37	9.74						1523
			D	1.06	1.88	2.93	4.20	5.70	7.41	11.51						
			D4	0.04	0.12	0.29	0.61	1.13	1.93	4.71						
325/1	32 x 5	44.693	U	184.98	103.86	66.31	45.92	33.62	25.64	16.25						1730
			D	1.06	1.88	2.93	4.20	5.70	7.42	11.48						
			D4	0.02	0.07	0.18	0.37	0.68	1.16	2.83						
325/IS	32 x 5 serrated	41.422	U	157.17	88.23	56.32	38.99	28.54	21.75	13.78						1628
			D	1.15	2.04	3.17	4.56	6.18	8.04	12.42						
			D4	0.03	0.09	0.23	0.47	0.87	1.48	3.61						
403/1	40 x 3	34.226	U	172.05	96.63	61.72	42.76	31.33	23.91	15.18	10.44					1800
			D	0.84	1.49	2.33	3.34	4.53	5.90	9.15	13.05					
			D4	0.02	0.06	0.15	0.31	0.58	0.99	2.41	5.00					
405/1	40 x 5	55.159	U	289.17	162.42	103.76	71.89	52.67	40.20	25.53	17.57					2045
			D	0.85	1.50	2.35	3.37	4.57	5.96	9.24	13.18					
			D4	0.01	0.04	0.09	0.19	0.35	0.59	1.45	3.00					
405/IS	40 x 5 serrated	52.543	U	260.95	146.56	93.61	64.85	47.51	36.25	23.02	15.83					1968
			D	0.89	1.58	2.47	3.55	4.81	6.27	9.71	13.85					
			D4	0.01	0.04	0.11	0.22	0.41	0.69	1.69	3.50					
455/1	45 x 5	61.701	U	366.06	205.64	131.39	91.06	66.74	50.96	32.39	22.31	16.23				2234
			D	0.75	1.34	2.09	3.00	4.07	5.30	8.23	11.75	15.84				
			D4	0.01	0.03	0.06	0.13	0.24	0.42	1.02	2.11	3.90				
505/1	50 x 5	68.243	U	452.01	253.96	162.29	112.50	82.47	62.99	40.07	27.62	20.12	15.24			2418
			D	0.68	1.20	1.88	2.70	3.67	4.78	7.42	10.61	14.31	18.50			
			D4	0.01	0.02	0.05	0.10	0.18	0.30	0.74	1.54	2.85	4.86			
655/1	65 x 5	87.868	U	764.16	429.46	274.55	190.39	139.65	106.72	67.99	46.95	34.27	26.03	20.39		2943
			D	0.52	0.93	1.45	2.08	2.83	3.69	5.73	8.21	11.10	14.38	18.04		
			D4	0.00	0.01	0.02	0.04	0.08	0.14	0.34	0.70	1.30	2.21	3.54		

(1) The data provided in the above table based on the critical design case of the Allowable Stress design and the Ultimate Limit State Design. The mild steel grade is G250 with a yielding strength of 250 MPa according to AS3679-2006, the allowable design stress is 211 MPa.

(2) U: Safe Superimposed Uniformly Distributed Load - kPa

(3) D: Deflection due to the Safe Superimposed Load - mm

(4) D4: Deflection due to 4 kPa applied Load - mm

(5) Span shown left of heavy line have a deflection of less than 5mm for 4 kPa UDL

(6) Add 12% to the mass provided for galvanising and fabrication banding bars

SERIES 2: MILD STEEL GRATING LOAD CHART

SAFE LOAD AND DEFLECTION TABLE

Product Code	Load Bar Size (mm)	Mass (kg/sqm)		Span (mm)- maximum allowable Q load (kPa) under strength design												Span (mm) for 5mm deflection at 4kPa
				450	600	750	900	1050	1200	1500	1800	2100	2400	2700	3000	
*203/2	20 x 3	14.601	U	32.45	18.19	11.59	8.00									996
			D	1.70	4.02	7.86	13.58									
			D4	0.21	0.66	1.61	3.33									
205/2	20 x 5	22.451	U	54.10	30.34	19.34	13.36	9.76								1132
			D	1.69	3.00	4.72	8.15	12.94								
			D4	0.13	0.40	0.96	2.00	3.71								
253/2	25 x 3	17.545	U	50.75	28.47	18.16	12.56	9.18								1177
			D	1.35	2.40	4.02	6.95	11.04								
			D4	0.11	0.34	0.82	1.71	3.16								
255/2	25 x 5	27.357	U	84.61	47.47	30.29	20.95	15.32	11.67							1338
			D	1.35	2.40	3.74	5.36	7.27	9.89	Contact Steel grating Ltd for deflection for loads and spans for this side of shadow line						
			D4	0.06	0.20	0.49	1.02	1.90	3.24							
255/2S	25 x 5 serrated	24.904	U	68.51	38.43	24.51	16.94	12.38	9.42							1236
			D	1.50	2.67	4.15	5.95	9.09	13.57							
			D4	0.09	0.28	0.68	1.40	2.60	4.44							
*323/2	32 x 3	21.666	U	83.22	46.72	29.82	20.65	15.11	11.52							1417
			D	1.06	1.88	2.93	4.20	5.70	7.86							
			D4	0.05	0.16	0.39	0.81	1.51	2.57							
325/2	32 x 5	34.226	U	138.73	77.89	49.73	34.43	25.21	19.22	12.18						1610
			D	1.06	1.88	2.93	4.20	5.70	7.42	11.47						
			D4	0.03	0.10	0.24	0.49	0.90	1.54	3.77						
325/2S	32 x 5 serrated	31.773	U	117.87	66.17	42.23	29.23	21.40	16.31	10.32						1515
			D	1.15	2.04	3.17	4.56	6.18	8.03	12.41						
			D4	0.04	0.12	0.30	0.62	1.15	1.97	4.81						
*403/2	40 x 3	26.376	U	129.03	72.46	46.28	32.06	23.49	17.92	11.38						1675
			D	0.84	1.49	2.33	3.34	4.53	5.90	9.15						
			D4	0.03	0.08	0.20	0.42	0.77	1.32	3.22						
405/2	40 x 5	42.076	U	216.87	121.81	77.81	53.91	39.50	30.14	19.14	13.17					1903
			D	0.85	1.50	2.35	3.37	4.57	5.96	9.23	13.17					
			D4	0.02	0.05	0.12	0.25	0.46	0.79	1.93	4.00					
*405/2S	40 x 5 serrated	40.114	U	195.71	109.91	70.20	48.63	35.62	27.18	17.26	11.86					1831
			D	0.89	1.58	2.47	3.55	4.81	6.26	9.71	13.84					
			D4	0.02	0.06	0.14	0.29	0.54	0.92	2.25	4.67					
*455/2	45 x 5	46.982	U	274.54	154.23	98.54	68.29	50.05	38.21	24.29	16.73					2079
			D	0.75	1.34	2.09	3.00	4.07	5.30	8.23	11.75					
			D4	0.01	0.03	0.08	0.18	0.33	0.56	1.36	2.81					
*505/2	50 x 5	51.889	U	399.00	190.46	121.71	84.37	61.85	47.23	30.05	20.71	15.08				2250
			D	0.68	1.20	1.88	2.70	3.67	4.78	7.42	10.61	14.31				
			D4	0.01	0.03	0.06	0.13	0.24	0.40	0.99	2.05	3.79				

(1) The data provided in the above table based on the critical design case of the Allowable Stress design and the Ultimate Limit State Design.

The mild steel grade is G250 with a yielding strength of 250 MPa according to AS3679-2006, the allowable design stress is 211 MPa.

(2) U: Safe Superimposed Uniformly Distributed Load - kPa

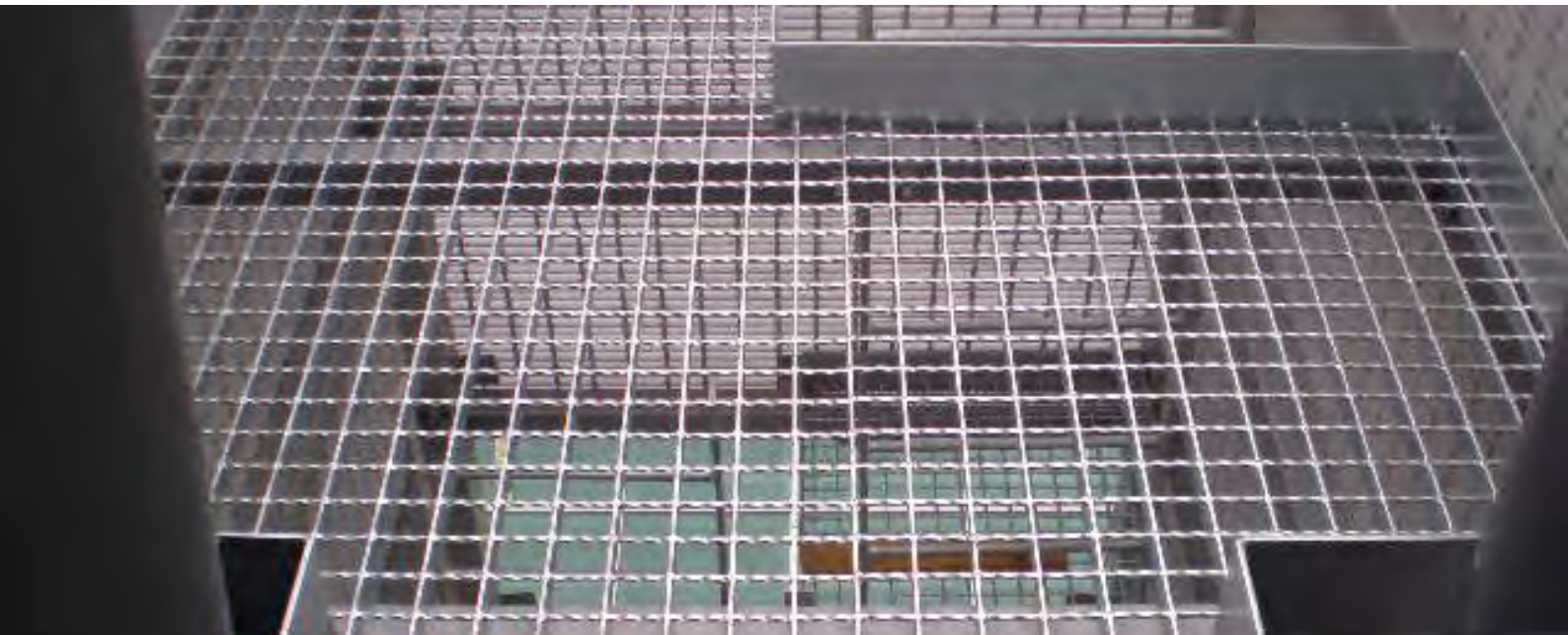
(3) D: Deflection due to the Safe Superimposed Load - mm

(4) D4: Deflection due to 4 kPa applied Load - mm

(5) Span shown left of heavy line have a deflection of less than 5mm for 4 kPa UDL

(6) * Product not commonly stocked

(7) Add 14% to the mass provided for galvanising and fabrication banding bars



SERIES 3: MILD STEEL GRATING LOAD CHART

**Please note series 3 grating does not comply with AS1657 due to the size of the openings*

SAFE LOAD AND DEFLECTION TABLE

Product Code	Load Bar Size (mm)	Mass (kg/sqm)		Span (mm)- maximum allowable Q load (kPa) under strength design												Span (mm) for 5mm deflection at 4kPa
				450	600	750	900	1050	1200	1500	1800	2100	2400	2700	3000	
*255/3S	25 x 5 serrated	20.371	U	45.63	25.58	16.30	11.26	8.22								1117
			D	1.50	2.66	4.97	8.59	13.63								
			D4	0.13	0.42	1.02	2.11	3.90								
*255/3	25 x 5	22.006	U	56.37	31.61	20.15	13.93	10.18	7.74							1209
			D	1.35	2.40	3.73	6.26	9.94	14.84							
			D4	0.10	0.30	0.74	1.54	2.85	4.86	Contact Steel grating Ltd for deflection for loads and spans for this side of shadow line						
325/3S	32 x 5 serrated	24.950	U	78.54	44.07	28.12	19.45	14.23	10.83							1369
			D	1.15	2.03	3.17	4.55	6.16	9.03							
			D4	0.06	0.18	0.45	0.93	1.73	2.96							
325/3	32 x 5	26.585	U	92.45	51.89	33.11	22.92	16.77	12.78							1455
			D	1.06	1.88	2.92	4.20	5.69	7.39							
			D4	0.05	0.14	0.35	0.73	1.36	2.32							

(1) The data provided in the above table based on the critical design case of the Allowable Stress design and the Ultimate Limit State Design. The mild steel grade is G250 with a yielding strength of 250 MPa according to AS3679-2006, the allowable design stress is 211 Mpa.

(2) U: Safe Superimposed Uniformly Distributed Load - kPa

(3) D: Deflection due to the Safe Superimposed Load - mm

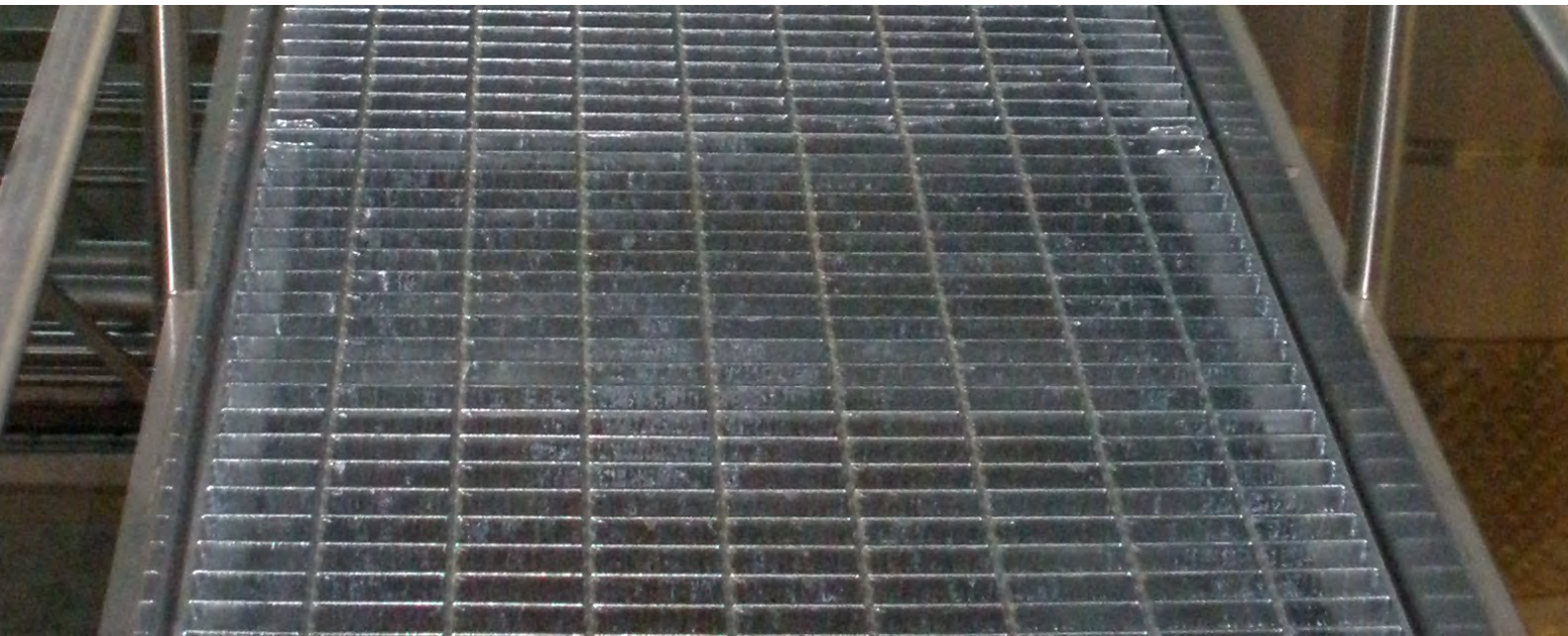
(4) D4: Deflection due to 4 kPa applied Load - mm

(5) Span shown left of heavy line have a deflection of less than 5mm for 4 kPa UDL

(6) * Product not commonly stocked

(7) * Series 3 grating does not comply with the design requirements of AS1657 due to the openings greater than the limit of 45 mm of which is stated in AS1657

(8) Add 16% to the mass provided for galvanising and fabrication banding bars



HOW TO SPECIFY / ORDER MILD STEEL GRATING

- Use the quick reference load charts or the main load charts to determine a suitable load bar size and series to suit your loading requirements. Eg- 255/1 or 325/2 etc...
- Designate at the end of the code with an **S** if you require a **S**errated surface, No designation will be assumed a Plain surface.
**check which grating options are available with a serrated surface within the load charts*
- Designate that the product you require is Mild Steel by referencing **M** = **M**ild Steel grating
- Designate the finish you require
 - **U** = Black (untreated / raw finish)
 - **G** = Hot dip galvanised to AS/NZS 4680
 - **P** = Powder coated finish
- Specify the size of the area or panel size(s) for the grating you require along with the load bar direction (span)
- Specify any additional information we need to know for example if there are cut outs or penetrations in the grating, do we need to split cut outs between panels for installation, is kick plate required, are the grates banded or cut to size only etc....

EXAMPLES OF ORDERING / SPECIFYING MILD STEEL GRATING

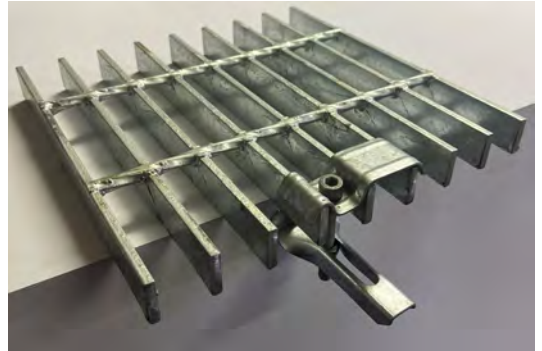
405/ 1 MU = 40x5mm plain load bars (series 1 grating, load bars at 30mm centres, cross bars at 100mm centres) **M**ild Steel, **U**ntreated finish

325/2S MG = 32x5mm **S**errated load bars (series 2, load bars at 40mm centres, cross bars at 100mm centres) **M**ild Steel, **G**alvanised finish.

FASTENINGS AND INSTALLATION FOR MILD STEEL GRATING:

GALVANISED FIXING CLIPS

Steel Grating Ltd provides a universal fixing clip designed to suit our series 1, series 2 and series 3 steel grating options with load bar sizes from 20mm up to 50mm. These clips comprise of a top "M" clip designed to saddle over the top of the grating and a bottom "J" clip that when applicable is designed to fasten the underside of the grating to the support. The bottom clip captivates the nut meaning that fastening the grating to the supports can be done from the top side of the grating for ease of installation.



- 4 fixing clips per m2 is recommended with additional clips to be used on longer grates where the grating sits on top of the supports at the intermediate spans.
- Minimum 4 clips per panel is recommended.
- In areas of lateral load movement or vibration fixing clips are not generally recommended.

WELDING GRATING TO ITS SUPPORT

Welding grating to the supporting structure is deemed a suitable process for permanently installed grating or in areas of vibration and lateral load movement. Steel Grating recommends a 25mm long, 6mm fillet weld at 1000mm centres. Minimum number of welds per panel is 4.

WELDING FIXING LUGS TO GRATING

Fixing lugs can be provided on grates if necessary. This comprises of a flat bar welded between the load bars with a hole drilled in it. The fixing lug is usually located flush with the bottom side of the grating and the centres of the holes for the fixing lugs are determined by the spacing's of the load bars.

ADDITIONAL INFORMATION

Minimum Support Dimension

A minimum support of 25mm for grating up to 50mm deep.

A minimum support of 50mm for 50mm and 65mm deep grating

It is generally recommended that the minimum grating support should be equal to the height of the grating load bar.

RECOMMENDED CLEARANCES

Recommended Clearances 5mm (min) to 10mm (max) spacing between grates.

10mm clearance of grating from the edge of a wall or end of a support

When grating sits in an angle minimum recommended clearance each side is equal to the thickness of the angle.