

Strength through Performance



الواحة للصناعات
المعدنية ذ.م.م.
OasisMetal
Manufacturing LLC

Strength through Performance



Strength through Performance



Welcome to the past, present and future of metal. . . **Al Shirawi Group**

Al Shirawi Group has today grown into one of the largest conglomerates in the Gulf region, headquartered in Dubai. Its diverse interests span manufacturing, engineering, trading, marketing, distribution, contracting, services and more.

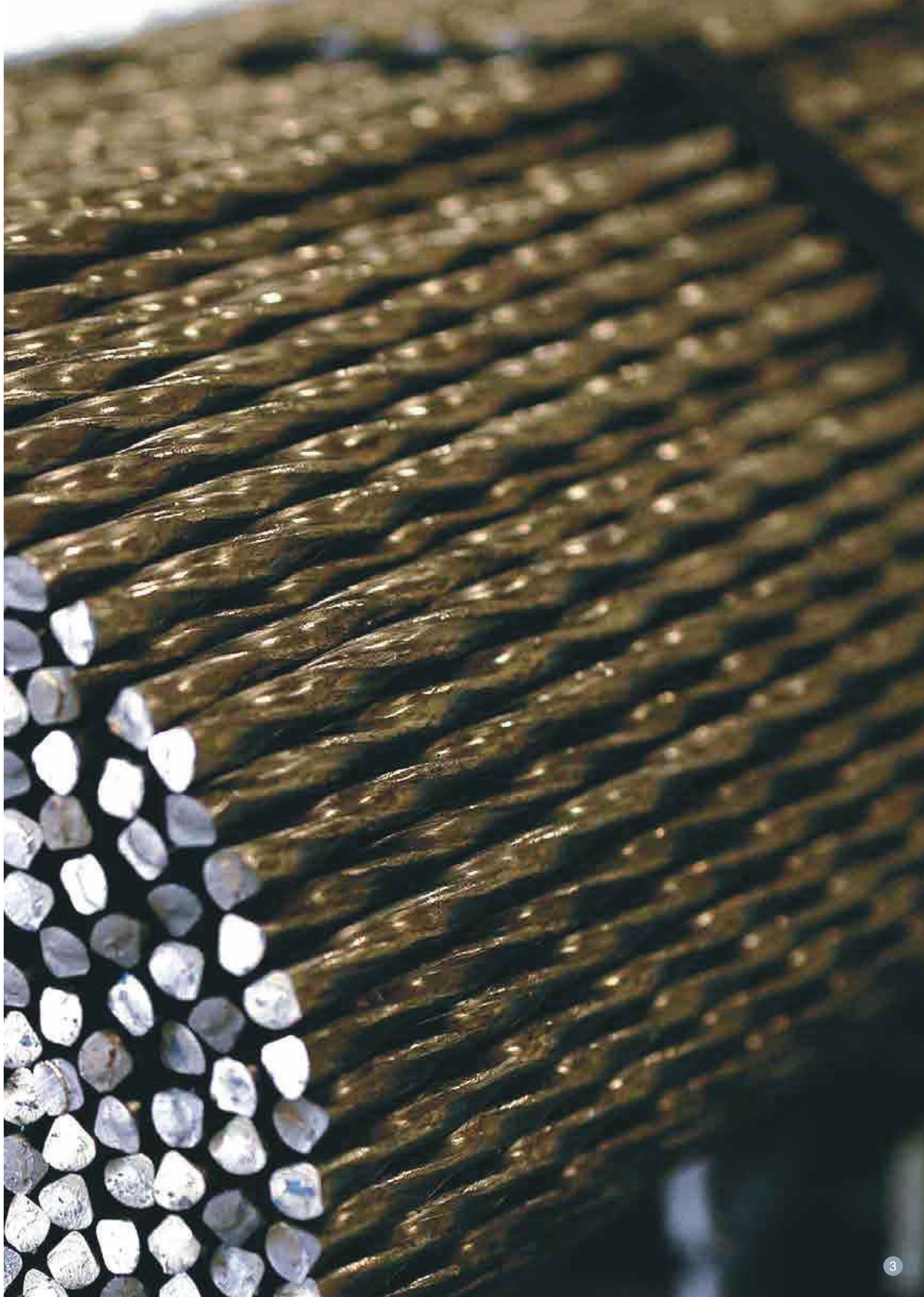
Presents. . . **Oasis Metal Manufacturing LLC**

Here at Oasis Metal we believe that our philosophy, 'Strength through Performance', is the right way to meet our customer's expectations. It was only in 2006 that we first began commercial production of resistance welded gratings, and we believe that our rapid growth since then shows that our customers agree with our philosophy too. By providing our customers with a product and service that is high 'performance' we have gained the 'strength' to build a global customer base in a very short time.

Our gratings are used in many different industries such as oil and gas, power, water, mining and construction. Supplying to such a diverse range of industries has required us to adapt our working methods to meet the different needs of our customers in each industry. From the smallest trader to the largest oil company we always give the same high quality product and service to everyone. From our Sales Engineers who handle enquiries right through to our Logistics team who pack and deliver our gratings, our company is filled with qualified and experienced professionals who do their best to support our customers with the service they need.

Located in Dubai, our modern factories are equipped with high speed production lines that have been continually upgraded to make sure that we comply with all international manufacturing standards. By making sure we understand and achieve the quality standards of any market that we enter, we have given our customers the confidence to let us export our gratings to them wherever they are. From the United States across Europe, Africa, the Middle East and into Asia, you will find our gratings in almost every corner of the world.

Based on our experience to date we know that by focusing on quality and service we really do demonstrate our 'Strength through Performance' to our existing customers. It is our commitment to this philosophy that we believe will allow us to continue to successfully introduce Oasis Metal to new markets and new customers in the years to come.

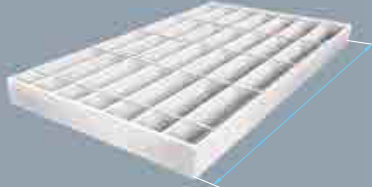


Terminology



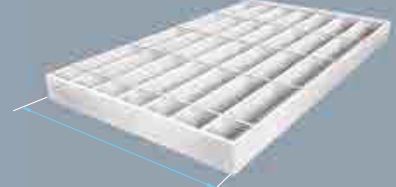
1. Grating

A steel grid formed from load bearing bars and cross bars through resistance welding.



2. Span (Length) of grating

Direction of the load bearing bars.



3. Width of grating

Direction of the cross bars.



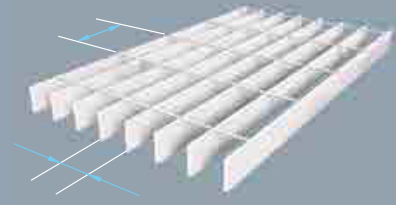
4. Plain load bearing bar

Flat load bearing bar with plain top surface



5. Serrated load bearing bar

Flat load bearing bar with serrated top surface



6. Pitch

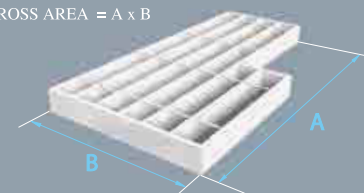
The centre to centre distance between load bearing bars or cross bars.



7. Binding bar

Flat bar welded to shaped panels at each end and at cut outs

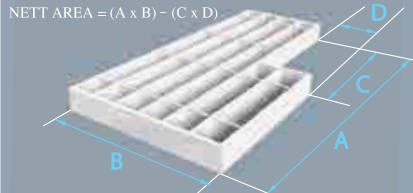
$$\text{GROSS AREA} = A \times B$$



8. Grating gross area

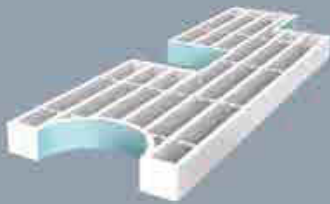
Total area of gratings including cut-out areas.

$$\text{NETT AREA} = (A \times B) - (C \times D)$$



9. Grating nett area

Total area of gratings excluding cut-out areas.



10. Cut - out

Area of grating cut out for pipes and columns to pass through.



11. Straight shaping

Cut-out with straight edges



12. Curved shaping

Cut-out with curved edges



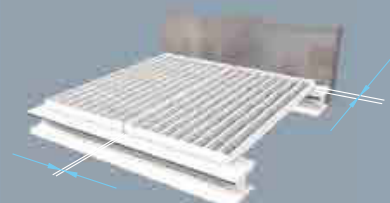
13. Toe plate

Larger size flat bar welded to the edge of grating panels for safety puposes.



14. Curb angle

A support fixed to concrete or steelwork to support gratings.



15. Erection clearance

The distance from a grating panel to an adjacent panel or structure.



16. Stair tread

A grating with end plates and non-slip nosing for use in stairways.



17. End plates

Plates welded to each end of a stairtread to permit fixing to steelwork.



18. Non slip nosings

Special anti slip bar welded to stairtreads or gratings to prevent slipping.

Products



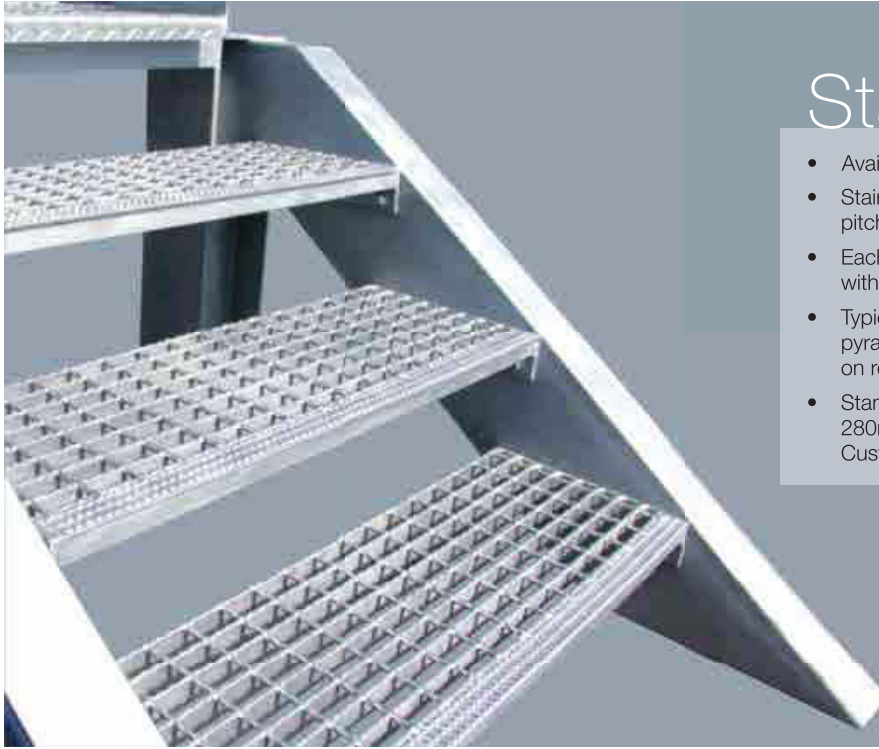
Standard Gratings

- Available in mild or stainless steel
- Standard gratings are typically available in 6m x 1m or 20' x 3' panels
- They can be produced with almost any combination of pitch size. Most commonly this is 41mm x 100mm or 30mm x 100mm.
- Load bearing bars of width 20mm to 100mm and thickness 3mm to 6mm can be used. Bars can be plain or with a serrated edge finish of various depths.
- Panels are available in self colour or with a galvanized coating to international standards.



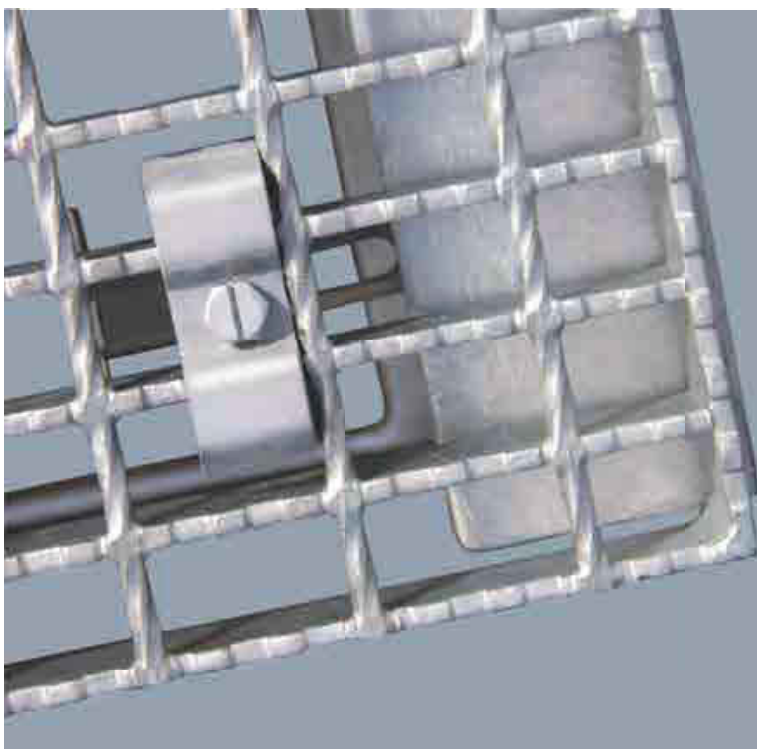
Shaped Gratings

- Available in mild or stainless steel
- Shaped grating panels can be cut and profiled from standard grating panels to fit a specific floor area.
- They can be fitted with non-slip edge bars and toe plates to suit the customer's design.
- All of our shaped gratings are subjected to stringent inspection at each stage of manufacture.
- Our engineering department, equipped with the latest Autocad facilities, can draw shaped gratings to meet your precise requirements.
- They will assist you in choosing the correct type of grating to suit your application. Load tables for the most common sizes are shown on pages 15, 17, 19 and 21.
- If required, one of our engineers can visit your site to survey the area to be covered and determine your exact requirement.
- We also project manage the supply of our gratings to meet your technical and schedule requirements.



Stairtreads

- Available in mild or stainless steel
- Stairtreads can be supplied with any combination of pitch size, bearing bar type and serration profile.
- Each stairtread is supplied with end plates complete with slotted holes for easy installation.
- Typically, we supply the stairtread with a slip resistant pyramid nosing bar. Other types of nosing are available on request.
- Standard sizes of our stairtreads are 250mm and 280mm wide x 800mm, 1000mm and 1200mm long. Customized sizes are available on request.



Fixing Clips

- Available in mild or stainless steel
- Gratings can be supplied with our standard saddle top fixing clip.
- Our engineering department can advise you on the correct type of clip needed for your application.
- We can also design and supply customized clips for special applications when required.

Possibilities

How to choose and specify our gratings

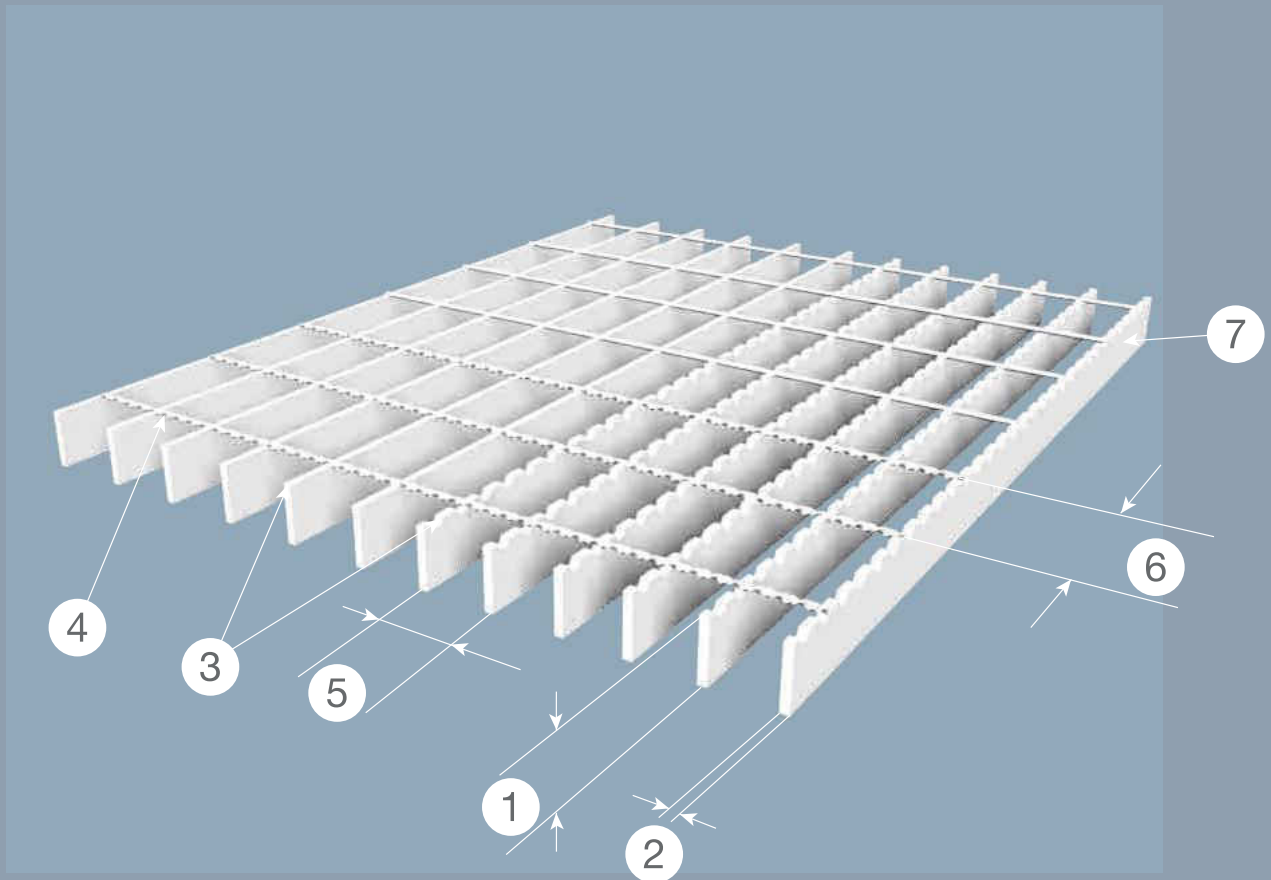
Our gratings and stairtreads can be produced with any combination of the options given below.

To correctly specify the type of gratings that you need, please choose one option from each section.

Your selection should also consider the performance load tables shown on pages 15, 17, 19 and 21.

Available in mild or stainless steel.

- 1 Bearing Bar Height (mm) - 20, 25, 30, 32, 35, 38, 40, 45, 50, 55, 60, 65, 70, 80, 90, 100
- 2 Bearing Bar Thickness (mm) - 2, 2.5, 3, 3.5, 4, 4.5, 5, 6, 7, 8, 9, 10
- 3 Bearing Bar Type - Plain, Serrated
- 4 Twisted Square Cross Bar
Diameter (mm) - 5, 6, 8, 10
- 5 Bearing Bar Pitch (mm) - 17, 20, 22, 25, 30, 33, 34, 35, 40, 41, 50
- 6 Cross Bar Pitch (mm) - 20, 25, 38, 50, 76, 100
- 7 Finish - Self Colour, Hot Dip Galvanized, Painted



Quality Counts

We strongly believe that quality counts and we have based our business strategy on the belief that the best quality product and service always wins through. It is on this basis that we have grown into a global supplier to more than thirty countries in such a short time.

Our commitment to quality runs through our product from start to finish:

Raw Materials

Our raw materials are procured only from reputable sources that we regularly visit and audit. Our material suppliers are all ISO 9001 certified and we procure our raw materials to the following minimum standards and grades:

- ★ ASTM A1011M (American Standard)
- ★ BS EN 10025 Grade S275 JR (British Standard and European Norm)

Manufacturing Standards

We manufacture our gratings to many international standards of which the most common are:

- ★ ANSI/NAAMM MBG 531-00 (American National Standard)
- ★ BS 4592-1:2006 (British Standard)

Welder Testing

Our welders are tested and approved to the following standards:

- ★ AWS D1.1:2010 (American Welding Standard)
- ★ BS EN 287-1:2004 (British Standard and European Norm)

Hot Dip Galvanized

Our products are hot dip galvanized (if required) to the following standards:

- ★ ASTM A123 (American Standard)
- ★ BS EN ISO 1461:2009 (British Standard and European Norm)

Quality Assurance

Our Quality Assurance Plan (QAP) states all of the inspection hold points in our production process that our Quality Controllers follow to ensure that we achieve our commitment to 100% inspection. This is how we ensure that our finished product is of the highest standard possible. Our QAP can be adapted to suit your particular project requirements if needed.

If the standard you require is not listed above, please refer us to it. We will check and confirm to you that we can comply with it.

Certificate

Standard **ISO 9001:2008**

Certificate Registr. No. 01.100 1522597

Certificate Holder:



Oasis Metal Manufacturing L.L.C.,
P.O. Box - 71100,
Al Quoz Industrial Area,
Dubai, United Arab Emirates

Scope:

Manufacture and Fabricate Electro - Forged Steel Gratings and
Stair Treads.
Estimation, Design and Detailing for Structural Steel Engineering
Activities.

Proof has been furnished by means of an audit that the
requirements of ISO 9001:2008 are met.

Validity:

The certificate is valid from 2015-10-19 until 2018-09-14.
First certification 2010

2015-10-19

A stylized signature in black ink, likely representing the official representative of TÜV Rheinland.

TÜV Rheinland Cert GmbH
Am Grauen Stein • 51105 Köln



www.tuv.com

The TÜV Rheinland logo features a stylized blue triangle to the left of the text 'TÜVRheinland®' and 'Precisely Right.'
TÜVRheinland®
Precisely Right.

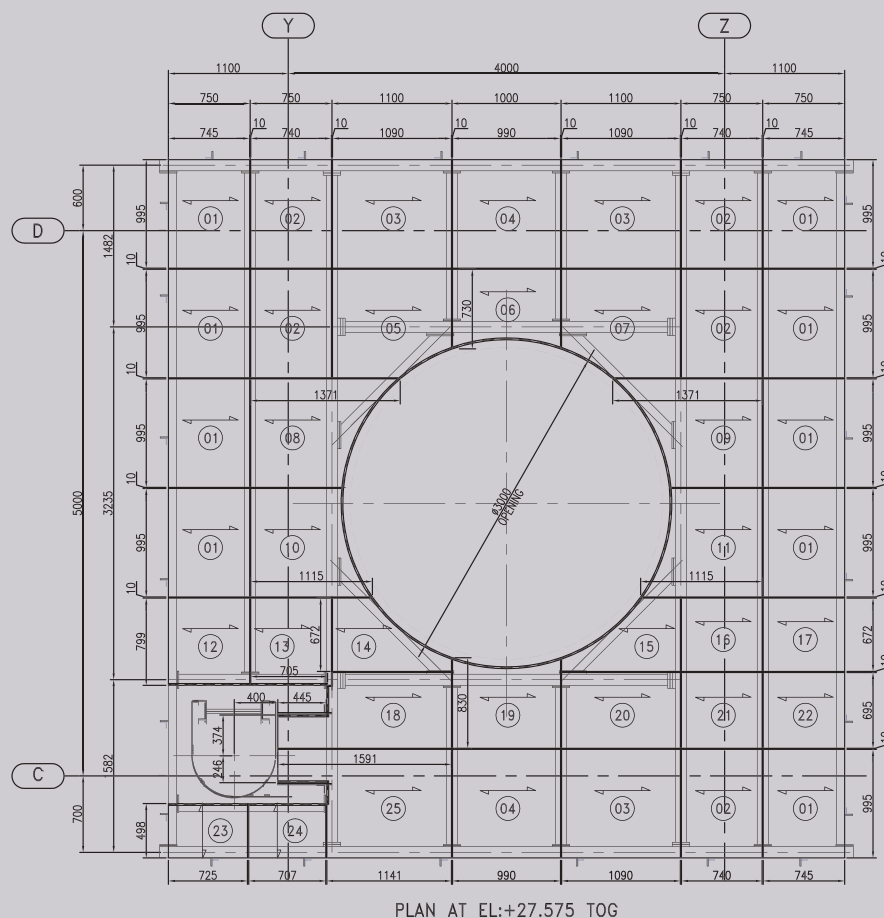
Engineering

Our Engineering Department is manned by a highly qualified and well trained team of engineers who can provide you with any technical advice or support you need.

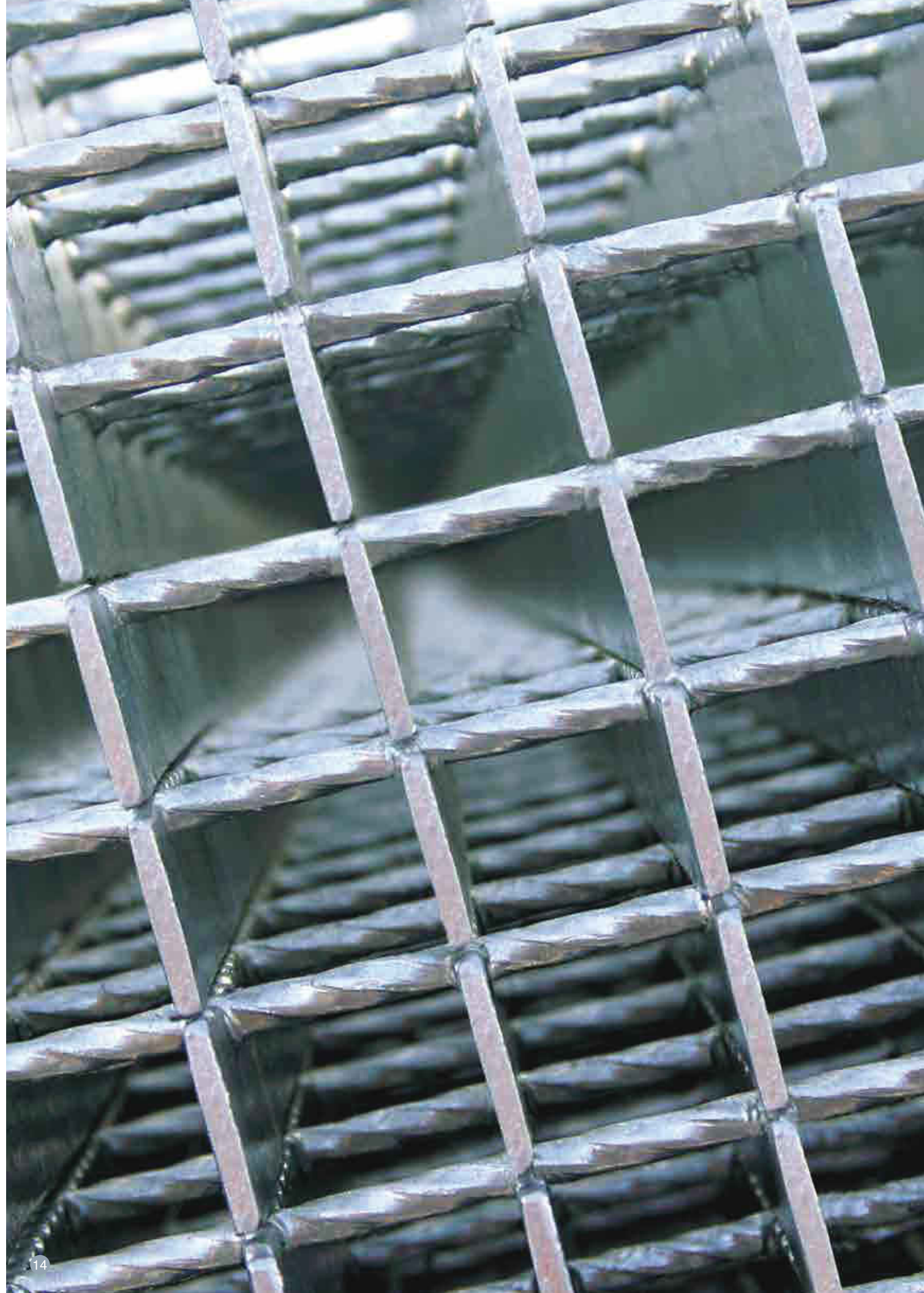
Our Engineers are responsible for the following activities:

- Preparation of load calculations
- On site surveying
- Preparation of standard drawings and details
- Preparation of detailed grating layout drawings in Autocad or Tekla format
- Project Management of your orders including detailed status reports

Transfer of drawings and documents to and from our Engineering Department can be done using our File Transfer Protocol (FTP) facility. This facility allows fast transfer of information, speeding up the overall processing of your order.







Performance Table A - For 25mm Centres



NOTES :-

Below table is made considering working stress of 165 N/mm² which allows for a safety factor of 1.6.

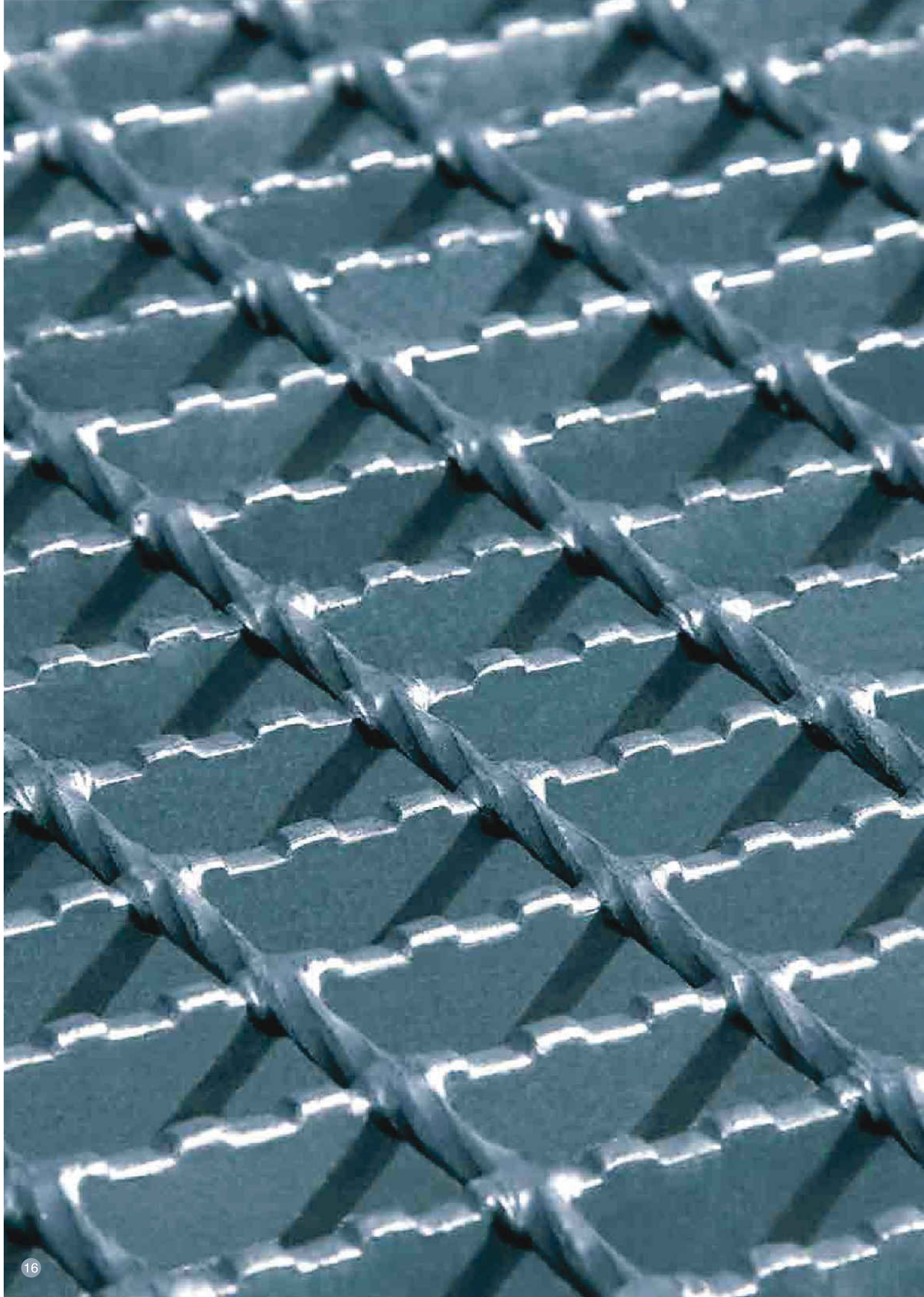
Deflection should not more than span / 200 times or 10mm whichever is lesser.

For pedestrian traffic there are three loading categories, which are Light Duty - (UDL - 3 KN/m²), Medium Duty - (UDL - 5 KN/m²) and Heavy Duty - (UDL - 7.5 KN/m²)

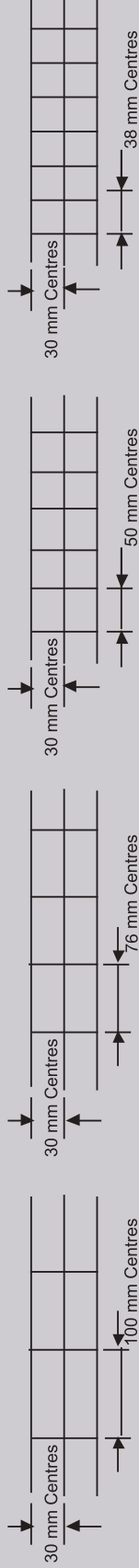
Add 2.8 Kg/m² to theoretical weight Kg/m² for Cross bars @ 50 mm centres

When calculating UDL and deflection for serrated gratings allowance should be made for the material removed from the bearing bar to form the serration profile. Typically this is 90% of the UDL and 105 % of the deflection. These figures vary depending on the type of serration and should be confirmed during the design process.

Bearing Bar Size (mm)	SPAN IN MM																Max Clear Span for Pedestrian Loadings				Theoretical Weight Kg/m2 for 100mm pitch
	300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	U - KN/m ²	3	5	7.5				
20 x 3	UDL-KN/m ²	120.60	53.36	30.05	15.44	8.93	5.62	3.76	2.64	1.93	1.44	1.11	0.87	0.67	Span - mm	1294.80	1092.00	954.00	22.14		
	D - mm	0.75	1.68	2.99	3.75	4.50	5.25	6.00	6.75	7.50	8.25	9.00	9.75	10.00	D - mm	6.47	5.46	4.77			
20 x 5	UDL-KN/m ²	201.00	88.90	50.08	25.73	14.89	9.38	6.28	4.41	3.21	2.41	1.86	1.46	1.11	Span - mm	1535.00	1294.00	1131.00	35.01		
	D - mm	0.75	1.68	2.99	3.75	4.50	5.25	6.00	6.75	7.50	8.25	9.00	9.75	10.00	D - mm	7.67	6.47	5.65			
25 x 3	UDL-KN/m ²	188.50	83.70	47.00	30.10	17.45	10.99	7.36	5.17	3.77	2.83	2.18	1.71	1.30	Span - mm	1618.00	1365.00	1192.00	26.96		
	D - mm	0.60	1.35	2.39	3.75	4.50	5.25	6.00	6.75	7.50	8.25	9.00	9.75	10.00	D - mm	8.09	6.82	5.96			
25 x 5	UDL-KN/m ²	314.00	139.60	78.20	50.12	29.08	18.31	12.27	8.61	6.28	4.72	3.63	2.86	2.18	Span - mm	1919.00	1618.00	1414.00	43.06		
	D - mm	0.60	1.35	2.39	3.75	4.50	5.25	6.00	6.75	7.50	8.25	9.00	9.75	10.00	D - mm	9.60	8.09	7.07			
30 x 3	UDL-KN/m ²	271.50	120.10	67.50	43.35	30.08	18.99	12.72	8.93	6.51	4.89	3.77	2.96	2.26	Span - mm	1942.00	1638.00	1431.00	31.79		
	D - mm	0.50	1.12	1.99	3.12	4.49	5.25	6.00	6.75	7.50	8.25	9.00	9.75	10.00	D - mm	9.71	8.19	7.15			
30 x 5	UDL-KN/m ²	452.00	200.10	112.50	72.30	50.15	31.65	21.20	14.89	10.85	8.15	6.28	4.94	3.76	Span - mm	2223.00	1942.00	1697.00	51.10		
	D - mm	0.50	1.12	1.99	3.12	4.49	5.25	6.00	6.75	7.50	8.25	9.00	9.75	10.00	D - mm	10.00	9.71	8.48			
35 x 3	UDL-KN/m ²	371.00	163.50	92.10	58.90	40.97	30.09	20.20	14.19	10.34	7.77	5.99	4.70	3.58	Span - mm	2196.00	1911.00	1669.00	36.62		
	D - mm	0.43	0.96	1.71	2.67	3.85	5.24	6.00	6.75	7.50	8.25	9.00	9.75	10.00	D - mm	10.00	9.55	8.34			
35 x 5	UDL-KN/m ²	617.00	272.50	153.50	98.20	68.28	50.16	33.66	23.64	17.23	12.95	9.97	7.85	5.98	Span - mm	2495.00	2196.00	1980.00	59.15		
	D - mm	0.43	0.96	1.71	2.67	3.85	5.24	6.00	6.75	7.50	8.25	9.00	9.75	10.00	D - mm	10.00	10.00	9.90			
40 x 3	UDL-KN/m ²	476.00	213.50	120.60	77.06	53.52	39.26	30.05	21.18	15.44	11.60	8.93	7.02	5.35	Span - mm	2427.00	2136.00	1908.00	41.45		
	D - mm	0.37	0.84	1.50	2.34	3.37	4.58	5.98	6.75	7.50	8.25	9.00	9.75	10.00	D - mm	10.00	10.00	9.54			
40 x 5	UDL-KN/m ²	793.00	355.60	201.00	128.47	89.20	65.44	50.09	35.29	25.73	19.33	14.89	11.71	8.93	Span - mm	2758.00	2427.00	2194.00	67.20		
	D - mm	0.37	0.84	1.50	2.34	3.37	4.58	5.98	6.75	7.50	8.25	9.00	9.75	10.00	D - mm	10.00	10.00	10.00			
50 x 5	UDL-KN/m ²	1255.00	554.00	314.00	200.50	139.10	102.15	78.36	61.89	50.25	37.75	29.08	22.87	17.44	Span - mm	3260.00	2870.00	2593.00	83.29		
	D - mm	0.30	0.67	1.20	1.87	2.69	3.66	4.79	6.06	7.50	8.25	9.00	9.75	10.00	D - mm	10.00	10.00	10.00			
60 x 5	UDL-KN/m ²	1810.00	800.00	452.50	289.00	200.10	147.10	112.80	89.12	72.13	65.25	50.25	39.53	30.14	Span - mm	3738.00	3290.00	2973.00	99.38		
	D - mm	0.25	0.56	1.00	1.56	2.24	3.05	3.99	5.05	6.23	8.12	9.00	9.75	10.00	D - mm	10.00	10.00	10.00			
70 x 5	UDL-KN/m ²	2415.00	1090.00	610.50	394.20	272.34	200.60	153.50	121.35	98.19	81.25	79.80	62.76	47.86	Span - mm	4197.00	3693.00	3337.00	115.47		
	D - mm	0.21	0.48	0.85	1.34	1.92	2.62	3.42	4.33	5.34	6.46	7.50	9.75	10.00	D - mm	10.00	10.00	10.00			



Performance Table B - For 30mm Centres



NOTES :-

Below table is made considering working stress of 165 N/mm² which allows for a safety factor of 1.6.

Deflection should not more than span / 200 times or 10mm, whichever is lesser.

For pedestrian traffic there are three loading categories, which are Light Duty - (UDL - 3 KN/m²), Medium Duty - (UDL - 5 KN/m²) and Heavy Duty - (UDL - 7.5 KN/m²)

Add 2.8 Kg/m² to theoretical weight Kg/m² for Cross bars @ 50 mm centres

When calculating UDL and deflection for serrated gratings allowance should be made for the material removed from the bearing bar to form the serration profile. Typically this is 90% of the UDL and 105 % of the deflection. These figures vary depending on the type of serration and should be confirmed during the design process.

Bearing Bar Size (mm)		SPAN IN MM													Max Clear Span for Pedestrian Loadings					Theoretical Weight Kg/m ² for 100mm pitch
		300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	U - KN/m ²	3	5	7.5		
20 x 3	UDL-KN/m ²	99.73	44.33	24.93	12.80	7.41	4.67	3.13	2.20	1.60	1.20	0.93	0.73	0.56	Span - mm	1217	1026	896	18.84	
	D - mm	0.75	1.68	2.99	3.75	4.50	5.25	6.00	6.75	7.50	8.25	9.00	9.75	10.00	D - mm	6.09	5.13	4.48		
20 x 5	UDL-KN/m ²	166.22	73.88	41.56	21.34	12.35	7.78	5.21	3.66	2.67	2.00	1.54	1.21	0.93	Span - mm	1442	1217	1063		
	D - mm	0.75	1.68	2.99	3.75	4.50	5.25	6.00	6.75	7.50	8.25	9.00	9.75	10.00	D - mm	7.21	6.09	5.32		29.52
25 x 3	UDL-KN/m ²	155.83	69.26	38.96	24.93	14.47	9.11	6.10	4.29	3.13	2.35	1.81	1.42	1.08	Span - mm	1521	1283	1120	22.84	
	D - mm	0.60	1.35	2.39	3.74	4.50	5.25	6.00	6.75	7.50	8.25	9.00	9.75	10.00	D - mm	7.61	6.42	5.60		
25 x 5	UDL-KN/m ²	259.72	115.43	64.93	41.56	24.12	15.19	10.17	7.15	5.21	3.91	3.01	2.37	1.81	Span - mm	1803	1521	1328		
	D - mm	0.60	1.35	2.39	3.74	4.50	5.25	6.00	6.75	7.50	8.25	9.00	9.75	10.00	D - mm	9.02	7.61	6.64		36.19
30 x 3	UDL-KN/m ²	224.40	99.73	56.10	35.90	24.93	15.75	10.55	7.41	5.40	4.06	3.13	2.46	1.87	Span - mm	1825	1539	1345	26.85	
	D - mm	0.50	1.12	1.99	3.12	4.49	5.25	6.00	6.75	7.50	8.25	9.00	9.75	10.00	D - mm	9.13	7.70	6.73		
30 x 5	UDL-KN/m ²	374.00	166.22	93.50	59.84	41.56	26.24	17.58	12.35	9.00	6.76	5.21	4.10	3.12	Span - mm	2121	1825	1594		
	D - mm	0.50	1.12	1.99	3.12	4.49	5.25	6.00	6.75	7.50	8.25	9.00	9.75	10.00	D - mm	10.00	9.13	7.97		42.86
35 x 3	UDL-KN/m ²	305.43	135.75	76.36	48.87	33.94	24.93	16.75	11.76	8.58	6.44	4.96	3.90	2.98	Span - mm	2096	1796	1569	30.85	
	D - mm	0.43	0.96	1.71	2.67	3.85	5.24	6.00	6.75	7.50	8.25	9.00	9.75	10.00	D - mm	10.00	8.98	7.85		
35 x 5	UDL-KN/m ²	509.06	226.25	127.26	81.45	56.56	41.56	27.92	19.61	14.29	10.74	8.27	6.51	4.96	Span - mm	2381	2096	1860		
	D - mm	0.43	0.96	1.71	2.67	3.85	5.24	6.00	6.75	7.50	8.25	9.00	9.75	10.00	D - mm	10.00	10.00	9.30		49.53
40 x 3	UDL-KN/m ²	398.93	177.30	99.73	63.83	44.33	32.57	24.93	17.56	12.80	9.62	7.41	5.83	4.44	Span - mm	2317	2039	1793	34.85	
	D - mm	0.37	0.84	1.50	2.34	3.37	4.58	5.98	6.75	7.50	8.25	9.00	9.75	10.00	D - mm	10.00	10.00	8.97		
40 x 5	UDL-KN/m ²	664.89	295.51	166.22	106.38	73.88	54.28	41.56	29.27	21.34	16.03	12.35	9.71	7.41	Span - mm	2632	2317	2093		
	D - mm	0.37	0.84	1.50	2.34	3.37	4.58	5.98	6.75	7.50	8.25	9.00	9.75	10.00	D - mm	10.00	10.00	10.00		56.21
50 x 5	UDL-KN/m ²	1038.89	461.73	259.72	166.22	115.43	84.81	64.93	51.30	41.67	31.31	24.12	18.97	14.46	Span - mm	3112	2739	2475	69.55	
	D - mm	0.30	0.67	1.20	1.87	2.69	3.66	4.79	6.06	7.50	8.25	9.00	9.75	10.00	D - mm	10.00	10.00	10.00		
60 x 5	UDL-KN/m ²	1496.00	664.89	374.00	239.36	166.22	122.12	93.50	73.88	59.84	54.10	41.67	32.78	24.99	Span - mm	3568	3140	2837		
	D - mm	0.25	0.56	1.00	1.56	2.24	3.05	3.99	5.05	6.23	8.25	9.00	9.75	10.00	D - mm	10.00	10.00	10.00		82.90
70 x 5	UDL-KN/m ²	2036.22	904.99	509.06	325.80	226.25	166.22	127.26	100.55	81.45	67.31	52.05	39.69	30.69	Span - mm	4005	3525	3185	96.24	
	D - mm	0.21	0.48	0.85	1.34	1.92	2.62	3.42	4.33	5.34	6.46	9.00	9.75	10.00	D - mm	10.00	10.00	10.00		



Performance Table C - For 34mm Centres



NOTES :-

Below table is made considering working stress of 165 N/mm² which allows for a safety factor of 1.6.

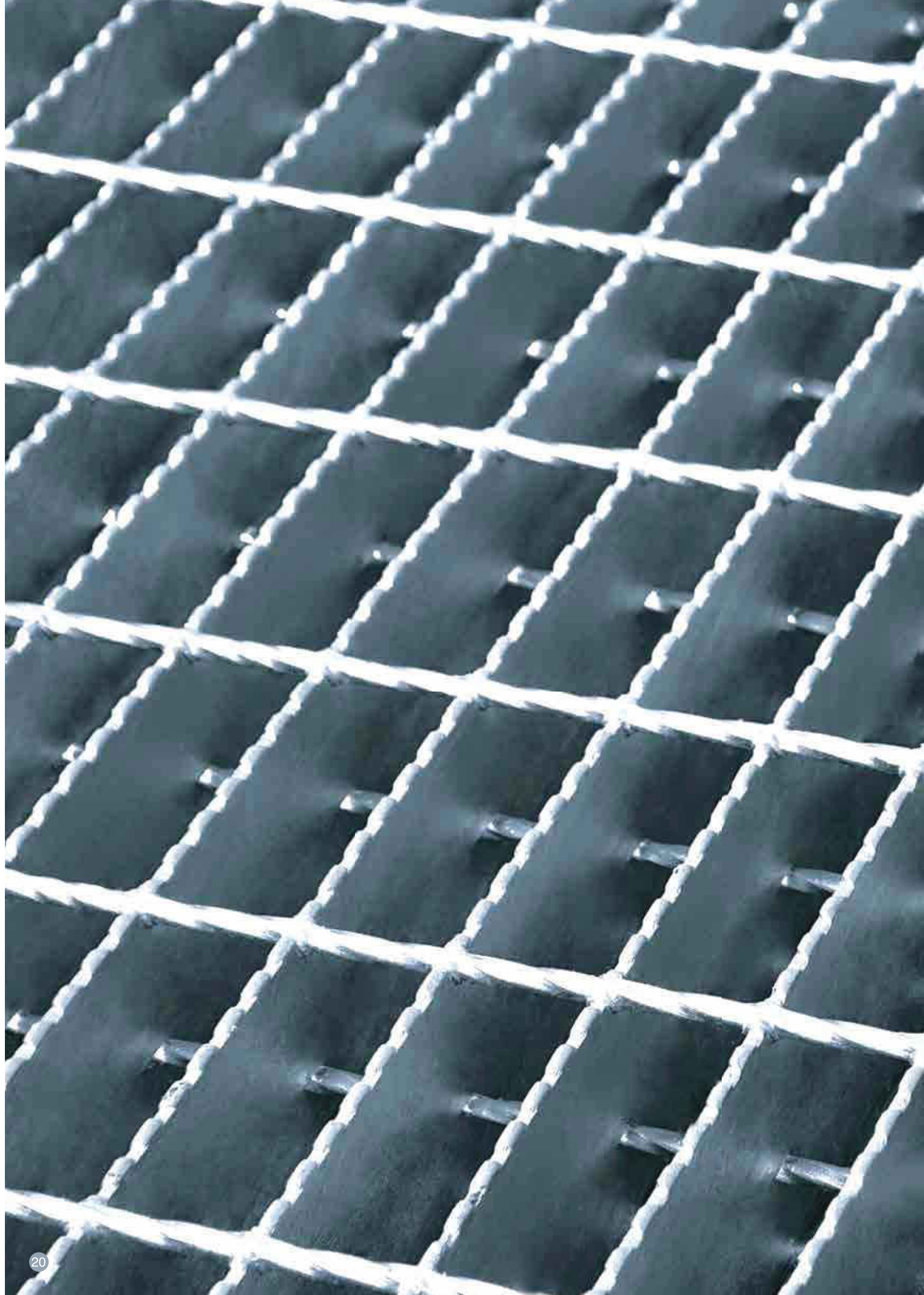
Deflection should not more than span / 200 times or 10mm, whichever is lesser.

For pedestrian traffic there are three loading categories, which are Light Duty - (UDL - 3 KN/m²), Medium Duty - (UDL - 5 KN/m²) and Heavy Duty - (UDL - 7.5 KN/m²)

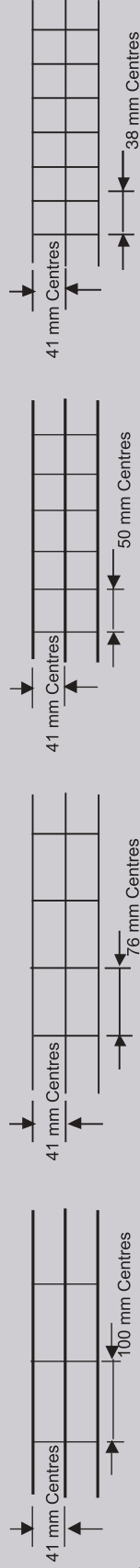
Add 2.8 Kg/m² to theoretical weight Kg/m² for Cross bars @ 50 mm centres

When calculating UDL and deflection for serrated gratings allowance should be made for the material removed from the bearing bar to form the serration profile. Typically this is 90% of the UDL and 105 % of the deflection. These figures vary depending on the type of serration and should be confirmed during the design process.

Bearing Bar Size (mm)	SPAN IN MM																Max Clear Span for Pedestrian Loadings				Theoretical Weight Kg/m ² for 100mm pitch
	UDL-KN/m ²	300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	U - KN/m ²	3	5	7.5			
20 x 3	UDL-KN/m ²	88.30	39.05	21.99	11.29	6.53	4.12	2.76	1.93	1.41	1.06	0.81	0.64	0.49	Span - mm	1166.00	984.00	859.70	16.96		
	D - mm	0.75	1.68	2.99	3.75	4.50	5.25	6.00	6.75	7.50	8.25	9.00	9.75	10.00	D - mm	5.83	4.92	4.29			
20 x 5	UDL-KN/m ²	147.00	65.10	36.65	18.83	10.90	6.86	4.60	3.23	2.35	1.76	1.36	1.07	0.81	Span - mm	1383.00	1166.80	1019.30	26.38		
	D - mm	0.75	1.68	2.99	3.75	4.50	5.25	6.00	6.75	7.50	8.25	9.00	9.75	10.00	D - mm	6.91	5.83	5.09			
25 x 3	UDL-KN/m ²	138.00	61.30	34.33	22.00	12.76	8.04	5.39	3.78	2.76	2.07	1.59	1.25	0.95	Span - mm	1458.50	1230.00	1074.00	20.49		
	D - mm	0.60	1.35	2.39	3.75	4.50	5.25	6.00	6.75	7.50	8.25	9.00	9.75	10.00	D - mm	7.29	6.15	5.37			
25 x 5	UDL-KN/m ²	230.00	102.15	57.21	36.67	21.28	13.40	8.97	6.30	4.59	3.45	2.66	2.09	1.59	Span - mm	1729.00	1458.50	1274.00	32.26		
	D - mm	0.60	1.35	2.39	3.75	4.50	5.25	6.00	6.75	7.50	8.25	9.00	9.75	10.00	D - mm	8.64	7.29	6.37			
30 x 3	UDL-KN/m ²	198.50	87.85	49.40	31.72	22.02	13.89	9.31	6.53	4.77	3.58	2.76	2.16	1.65	Span - mm	1750.00	1476.00	1289.50	24.02		
	D - mm	0.50	1.12	1.99	3.12	4.49	5.25	6.00	6.75	7.50	8.25	9.00	9.75	10.00	D - mm	8.75	7.38	6.44			
30 x 5	UDL-KN/m ²	331.00	146.40	82.40	52.86	36.77	23.15	15.51	10.89	7.94	5.96	4.60	3.61	2.75	Span - mm	2056.00	1750.00	1528.90	38.15		
	D - mm	0.50	1.12	1.99	3.12	4.49	5.25	6.00	6.75	7.50	8.25	9.00	9.75	10.00	D - mm	10.00	8.75	7.64			
35 x 3	UDL-KN/m ²	271.00	119.60	67.40	43.10	29.97	22.02	14.78	10.38	7.57	5.68	4.38	3.44	2.62	Span - mm	2031.00	1722.00	1504.00	27.55		
	D - mm	0.43	0.96	1.71	2.67	3.85	5.24	6.00	6.75	7.50	8.25	9.00	9.75	10.00	D - mm	10.00	8.61	7.52			
35 x 5	UDL-KN/m ²	452.00	199.30	112.30	71.85	49.96	36.70	24.64	17.30	12.61	9.47	7.30	5.74	4.37	Span - mm	2308.00	2031.00	1783.00	44.04		
	D - mm	0.43	0.96	1.71	2.67	3.85	5.24	6.00	6.75	7.50	8.25	9.00	9.75	10.00	D - mm	10.00	10.00	8.91			
40 x 3	UDL-KN/m ²	348.00	156.20	88.25	56.38	39.16	28.73	21.99	15.49	11.29	8.48	6.54	5.14	3.92	Span - mm	2245.00	1968.00	1719.00	31.09		
	D - mm	0.37	0.84	1.50	2.34	3.37	4.58	5.98	6.75	7.50	8.25	9.00	9.75	10.00	D - mm	10.00	9.84	8.59			
40 x 5	UDL-KN/m ²	580.00	260.20	147.10	94.00	65.28	47.88	36.65	25.83	18.83	14.14	10.89	8.57	6.53	Span - mm	2551.00	2245.00	2029.00	49.93		
	D - mm	0.37	0.84	1.50	2.34	3.37	4.58	5.98	6.75	7.50	8.25	9.00	9.75	10.00	D - mm	10.00	10.00	10.00			
50 x 5	UDL-KN/m ²	920.00	405.50	229.90	146.70	101.78	74.74	57.34	45.28	36.77	27.62	21.28	16.73	12.76	Span - mm	3015.00	2654.00	2398.00	61.70		
	D - mm	0.30	0.67	1.20	1.87	2.69	3.66	4.79	6.06	7.50	8.25	9.00	9.75	10.00	D - mm	10.00	10.00	10.00			
60 x 5	UDL-KN/m ²	1325.00	586.00	331.00	211.50	146.40	107.61	82.50	65.21	52.78	47.74	36.77	28.92	22.05	Span - mm	3457.00	3043.00	2750.00	73.48		
	D - mm	0.25	0.56	1.00	1.56	2.24	3.05	3.99	5.05	6.23	8.25	9.00	9.75	10.00	D - mm	10.00	10.00	10.00			
70 x 5	UDL-KN/m ²	1762.00	798.00	446.50	288.50	199.30	146.80	112.34	88.79	71.84	59.36	58.39	45.92	35.00	Span - mm	3881.00	3416.00	3087.00	85.25		
	D - mm	0.21	0.48	0.85	1.34	1.92	2.62	3.42	4.33	5.34	6.46	9.00	9.75	10.00	D - mm	10.00	10.00	10.00			



Performance Table D - For 41mm Centres



NOTES :-

Below table is made considering working stress of 165 N/mm² which allows for a safety factor of 1.6.

Deflection should not more than span / 200 times or 10mm, whichever is lesser.

For pedestrian traffic there are three loading categories, which are Light Duty - (UDL - 3 KN/m²), Medium Duty - (UDL - 5 KN/m²) and Heavy Duty - (UDL - 7.5 KN/m²)

Add 2.8 Kg/m² to theoretical weight Kg/m² for Cross bars @ 50 mm centres

When calculating UDL and deflection for serrated gratings, allowance should be made for the material removed from the bearing bar to form the serration profile. Typically this is 90% of the UDL and 105 % of the deflection. These figures vary depending on the type of serration and should be confirmed during the design process.

Bearing Bar Size (mm)		SPAN IN MM														Max Clear Span for Pedestrian Loadings				Theoretical Weight Kg/m ² for 100mm pitch
		300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	U - KN/m ²	3	5	7.5		
20 x 3	UDL-KN/m ²	73.33	32.59	18.33	9.41	5.45	3.43	2.30	1.61	1.18	0.88	0.54	0.41	Span - mm	1098	926	809	14.60		
	D - mm	0.75	1.68	2.99	3.75	4.50	5.25	6.00	6.75	7.50	8.25	9.00	9.75	D - mm	5.49	4.63	4.05			
20 x 5	UDL-KN/m ²	122.22	54.32	30.56	15.69	9.08	5.72	3.83	2.69	1.96	1.47	0.89	0.68	Span - mm	1302	1098	959	22.45		
	D - mm	0.75	1.68	2.99	3.75	4.50	5.25	6.00	6.75	7.50	8.25	9.00	9.75	D - mm	6.51	5.49	4.80			
25 x 3	UDL-KN/m ²	114.58	50.93	28.65	18.33	10.64	6.70	4.49	3.15	2.30	1.73	1.05	0.80	Span - mm	1373	1158	1011	17.54		
	D - mm	0.60	1.35	2.39	3.74	4.50	5.25	6.00	6.75	7.50	8.25	9.00	9.75	D - mm	6.87	5.79	5.06			
25 x 5	UDL-KN/m ²	190.97	84.88	47.74	30.56	17.73	11.17	7.48	5.25	3.83	2.88	1.74	1.33	Span - mm	1627	1373	1199	27.36		
	D - mm	0.60	1.35	2.39	3.74	4.50	5.25	6.00	6.75	7.50	8.25	9.00	9.75	D - mm	8.14	6.87	6.00			
30 x 3	UDL-KN/m ²	165.00	73.33	41.25	26.40	18.33	11.58	7.76	5.45	3.97	2.98	1.81	1.38	Span - mm	1647	1389	1214	20.49		
	D - mm	0.50	1.12	1.99	3.12	4.49	5.25	6.00	6.75	7.50	8.25	9.00	9.75	D - mm	8.53	6.95	6.07			
30 x 5	UDL-KN/m ²	275.00	122.22	68.75	44.00	30.56	19.30	12.93	9.08	6.62	4.97	3.01	2.30	Span - mm	1953	1647	1439	32.26		
	D - mm	0.50	1.12	1.99	3.12	4.49	5.25	6.00	6.75	7.50	8.25	9.00	9.75	D - mm	9.77	8.24	7.20			
35 x 3	UDL-KN/m ²	224.58	99.81	56.15	35.93	24.95	18.33	12.32	8.65	6.31	4.74	2.87	2.19	Span - mm	1922	1621	1416	23.43		
	D - mm	0.43	0.96	1.71	2.67	3.85	5.24	6.00	6.75	7.50	8.25	9.00	9.75	D - mm	9.61	8.11	7.08			
35 x 5	UDL-KN/m ²	374.31	166.36	93.58	59.89	41.59	30.56	20.53	14.42	10.51	7.90	4.78	3.65	Span - mm	2205	1922	1679	37.17		
	D - mm	0.43	0.96	1.71	2.67	3.85	5.24	6.00	6.75	7.50	8.25	9.00	9.75	D - mm	10.00	9.61	8.40			
40 x 3	UDL-KN/m ²	293.33	130.37	73.33	46.93	32.59	23.95	18.33	12.91	9.41	7.07	4.28	3.27	Span - mm	2145	1852	1618	26.38		
	D - mm	0.37	0.84	1.50	2.34	3.37	4.58	5.98	6.75	7.50	8.25	9.00	9.75	D - mm	10.00	9.26	8.09			
40 x 5	UDL-KN/m ²	488.89	217.28	122.22	78.22	54.32	39.91	30.56	21.52	15.69	11.79	7.14	5.45	Span - mm	2438	2145	1918	42.08		
	D - mm	0.37	0.84	1.50	2.34	3.37	4.58	5.98	6.75	7.50	8.25	9.00	9.75	D - mm	10.00	10.00	9.59			
50 x 5	UDL-KN/m ²	763.89	339.51	190.97	122.22	84.88	62.36	47.74	37.72	30.64	23.02	17.73	13.95	Span - mm	2882	2536	2292	51.89		
	D - mm	0.30	0.67	1.20	1.87	2.69	3.66	4.79	6.06	7.50	8.25	9.00	9.75	D - mm	10.00	10.00	10.00			
60 x 5	UDL-KN/m ²	1100.00	488.89	275.00	176.00	122.22	89.80	68.75	54.32	44.00	39.78	30.64	24.10	Span - mm	3304	2908	2627	61.70		
	D - mm	0.25	0.56	1.00	1.56	2.24	3.05	3.99	5.05	6.23	8.25	9.00	9.75	D - mm	10.00	10.00	10.00			
70 x 5	UDL-KN/m ²	1497.22	665.43	374.31	239.56	166.36	122.22	93.58	73.94	59.89	49.49	48.66	38.27	Span - mm	3709	3264	2949	71.51		
	D - mm	0.21	0.48	0.85	1.34	1.92	2.62	3.42	4.33	5.34	6.46	9.00	9.75	D - mm	10.00	10.00	10.00			

Distribution

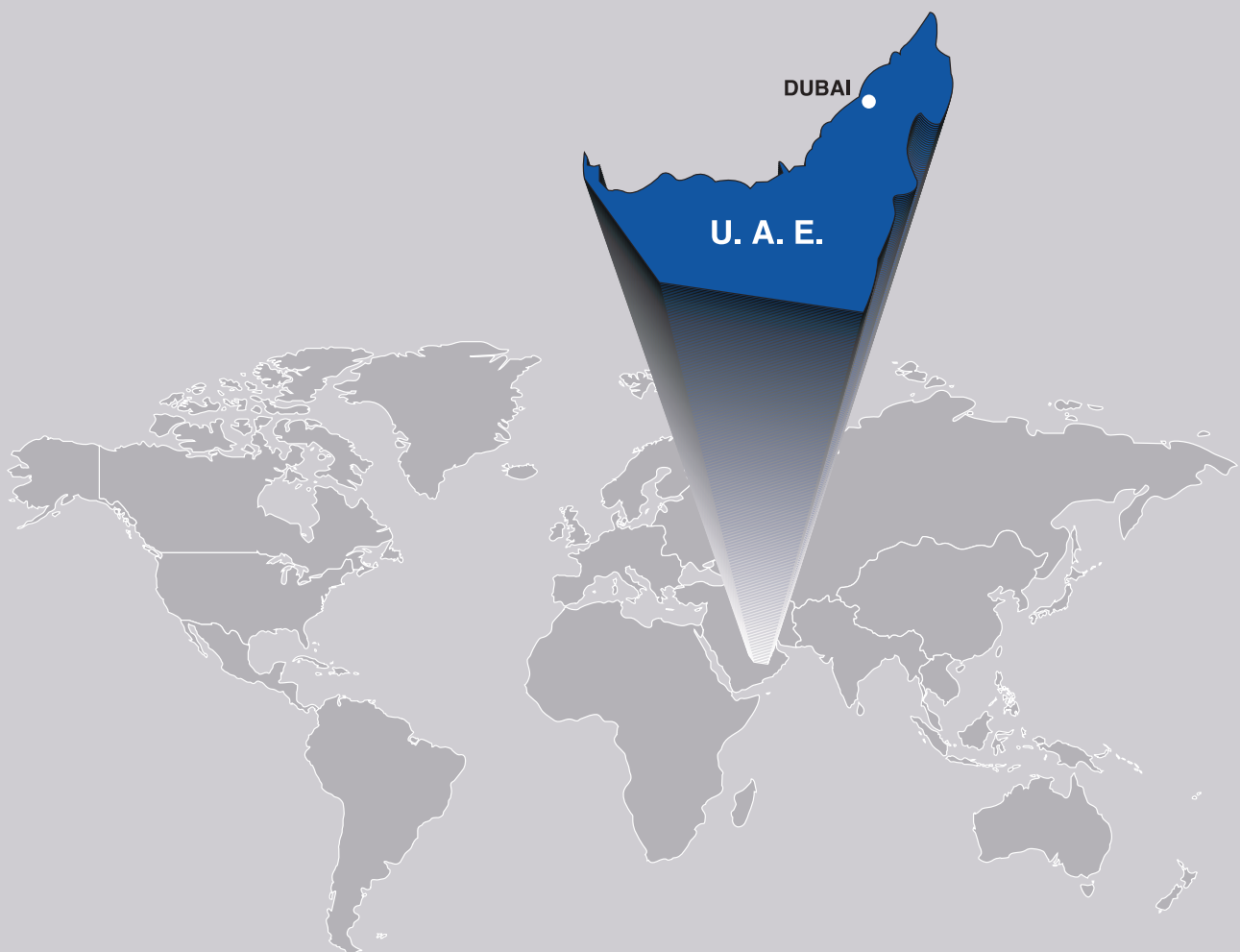
Regional

- We can deliver to your door across the Middle East with duty exemption in GCC countries.
- We can take care of border crossing fees, documentation and clearance.
- All you need to do is offload the truck when it arrives.



International

- Our products can be quickly exported to any part of the globe through professional shipping agents.
- We already export to more than thirty countries in all continents.
- We can deliver to your nearest port or even direct to your door.



Other Products

We also manufacture and fabricate the following products. Metal products are available in mild and stainless steel. Details are available on request.

**Industrial
Handrail**



**Architectural
Handrail**



Ladders



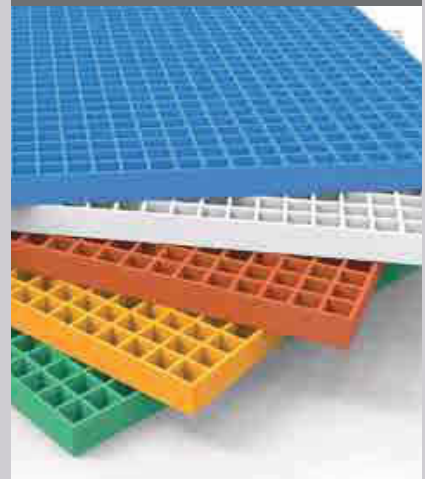
Staircases



**Flat-to-Flat
Grating**



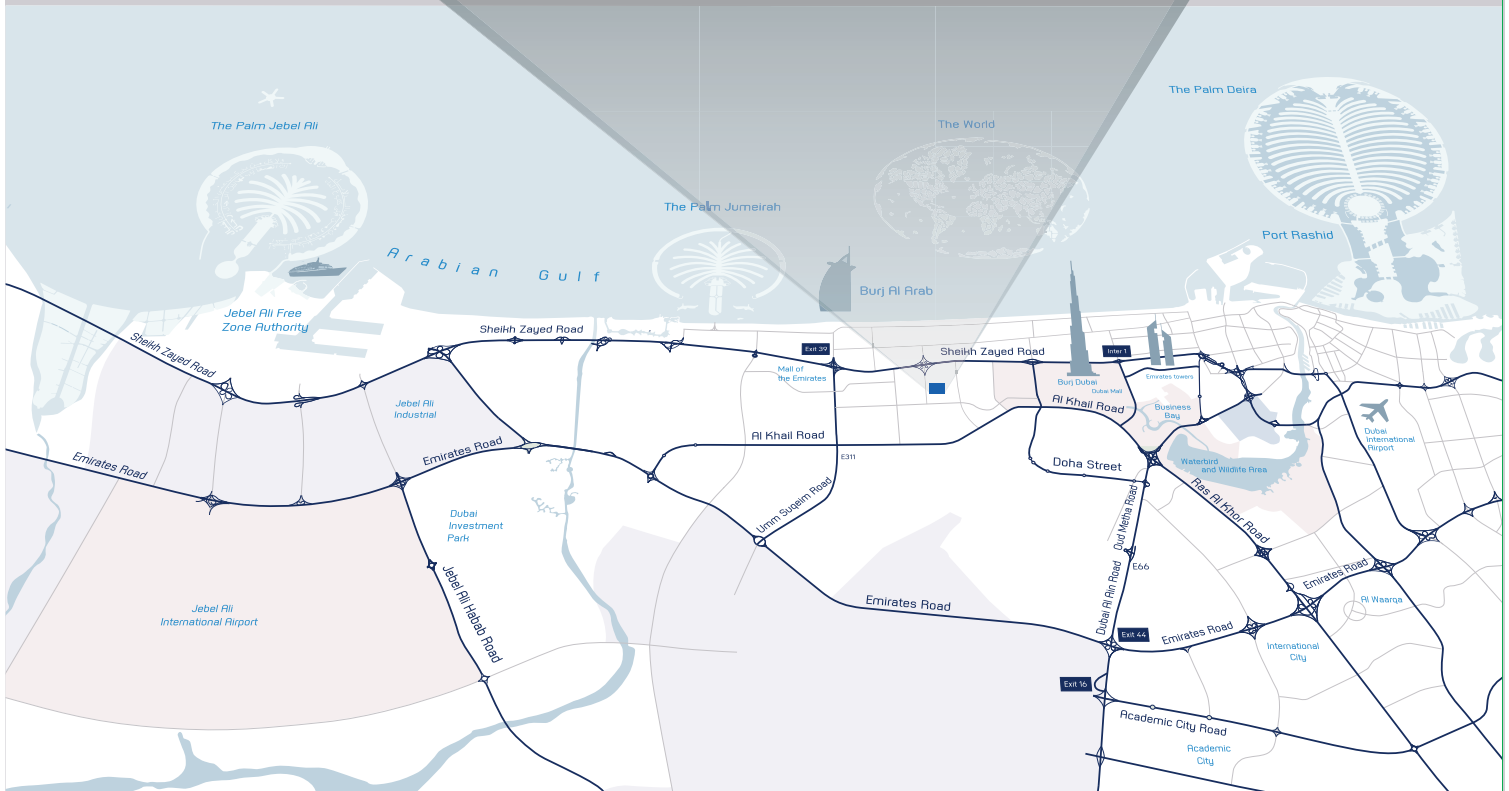
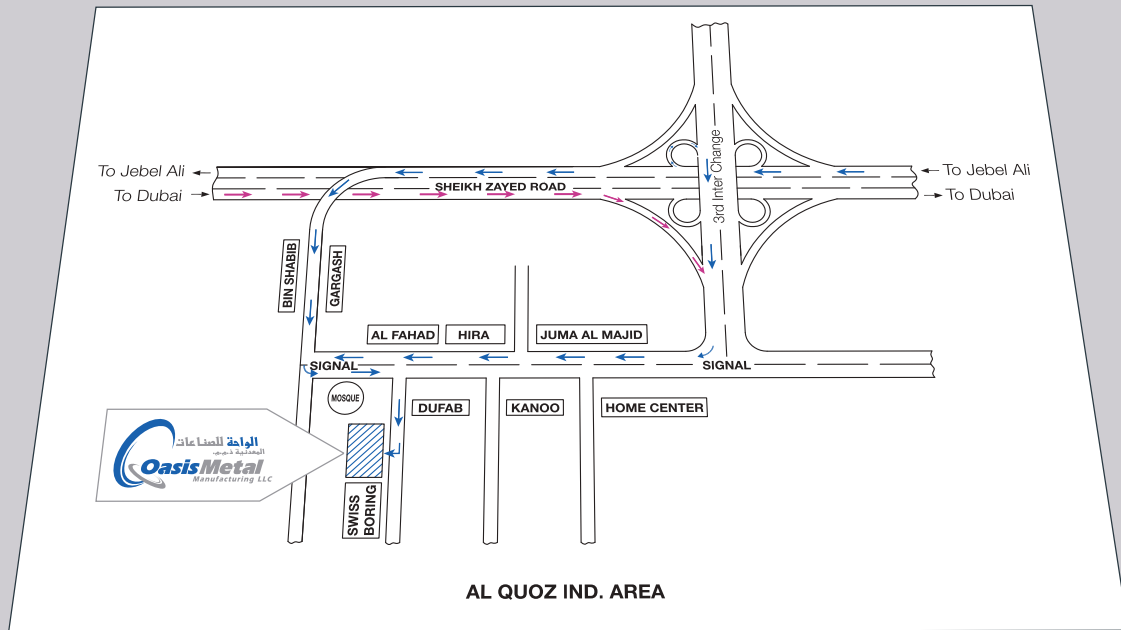
FRP Grating



Project List

Here are just a few examples of projects that we have supplied gratings for:

No	Project	Main Client	Location
1	Bab Gas Compression	ADCO	UAE
2	Barren Towers	ADMA-OPCP	UAE
3	Naphtha Hydrotreater Reformer	ENOC	UAE
4	Ruwais 3rd NGL Train	GASCO	UAE
5	Upper Zakum 750 (Islands Surface Facilities Project - EPC2)	ZADCO	UAE
6	CNRL Project-Fort McMurray	Saipem Canada Inc	Canada
7	Amal West Off-Pilot Facilities	Petroleum Development Oman	Oman
8	QatarGas 4 & 3 Onshore	QatarGas	Qatar
9	Ras Laffan Olefin	Qatar Petroleum	Qatar
10	Clean Fuels Project - MAB1	KNPC	Kuwait
11	New Booster Station BS - 160	KOC	Kuwait
12	Replace of Steam Turbo Generators No 2 PP	BAPCO	Bahrain
13	IBN-SINA POM	SABIC	Saudi Arabia
14	Khurisanayah Gas Plant	Saudi Aramco	Saudi Arabia
15	Manifa - Karan 45	Saudi Aramco	Saudi Arabia
16	Safaniya Phase II	Saudi Aramco	Saudi Arabia
17	PRJ2-3398-07- Drilling of 15 Wells in TUBA Feild	South Oil Company	Iraq
18	Zubair Oil Field Development	ENI Iraq BV	Iraq
19	Maghreb Steel Plant	Maghreb Steel	Morocco
20	HRM SPP1 Project	UTE Abener	Algeria
21	FAB DET of Converyor Gallery for 500BW	AYASE PLC Steel Processing Unit	Ethiopia
22	JSDF-Djibouti Facility	JSDF, East Africa	Djibouti, East Africa
23	Meenakshi PC142/0141	Meenakshi Energy Pvt Ltd	India
24	Singapore NExBTL Plant	Neste Oil	Singapore
25	PNG: LNG-EPC4	EXXON Mobil, ESSO Highlands Ltd	Papua New Guinea
26	Schoonebeek Oilfield Re-development	Jacobs Netherland BV	Netherland
27	Konya Sugar (SITERM) PC0281	Konya Sugar	Turkey
28	Cameron LNG Project	CB&I and Chiyoda JV (CCJV)	USA
29	Freeport LNG Liquefaction Project	CB&I and Zachry JV (CZJV)	USA
30	FTI SASOL Lake Charles	Fluor Technip Integrated	USA
31	Reformer Structure, Rock Springs	Simplot Phosphates LLC/Linde Engg.	USA



P.O.Box: 71100, Dubai, UAE.
 Tel: +971 4 347 2000,
 +971 4 347 4550,
 Fax: +971 4 347 1580,
 E-mail: info@om.ae
 Website: www.alshirawi.com