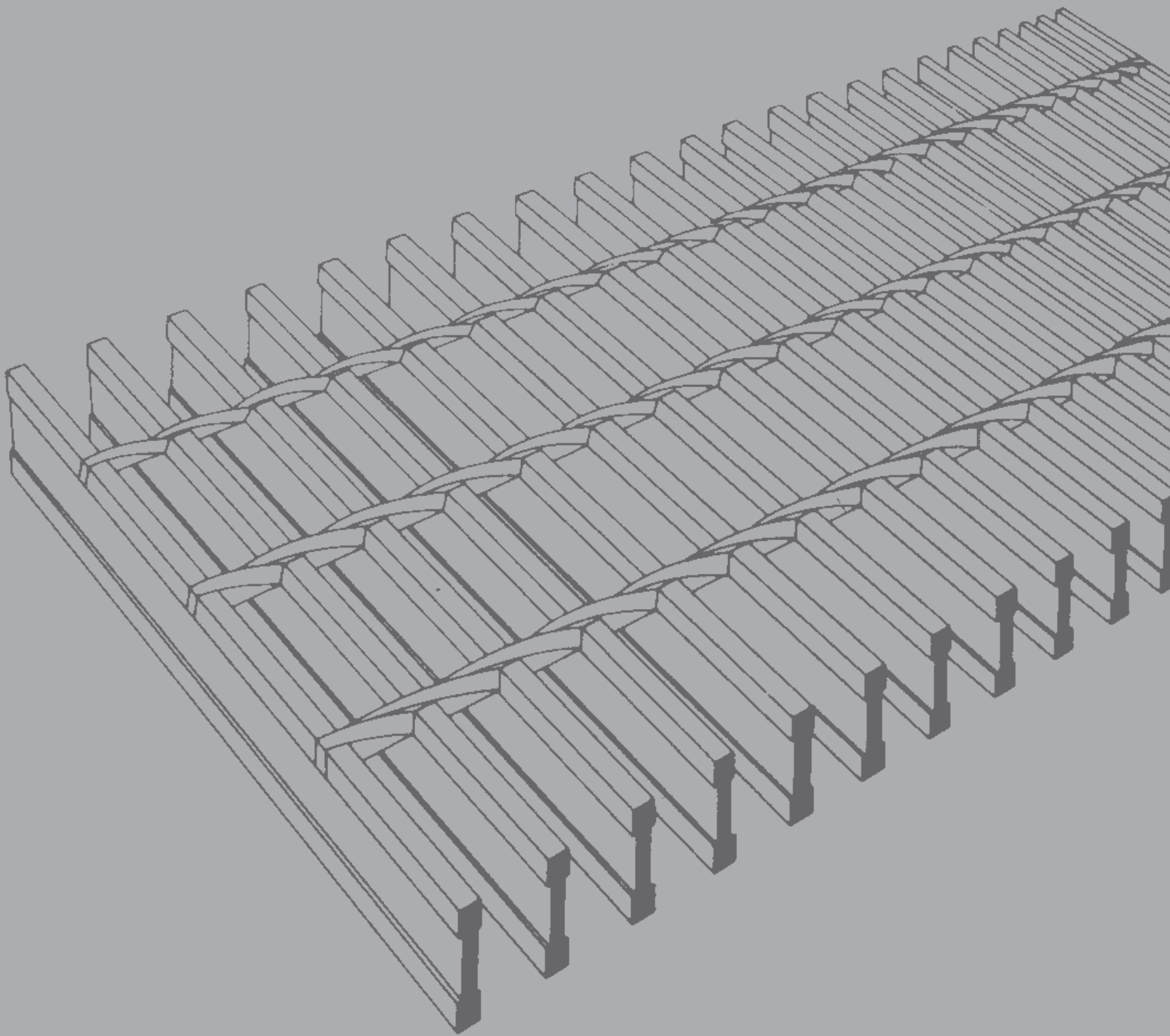




# Product Catalogue



# A Unique Product

## Product range designed for the Australasian market

Our manufacturing factory boasts an extensive product range with a simplified key range of options packaged specifically for the New Zealand and Australian market.

Perry Grating load bar centres:

- 30mm for high foot traffic
- 40mm for low foot traffic

Important please note: we can supply 60mm centres but this size does not meet AS/NZ standards for elevated platforms.

## Long-term cost savings

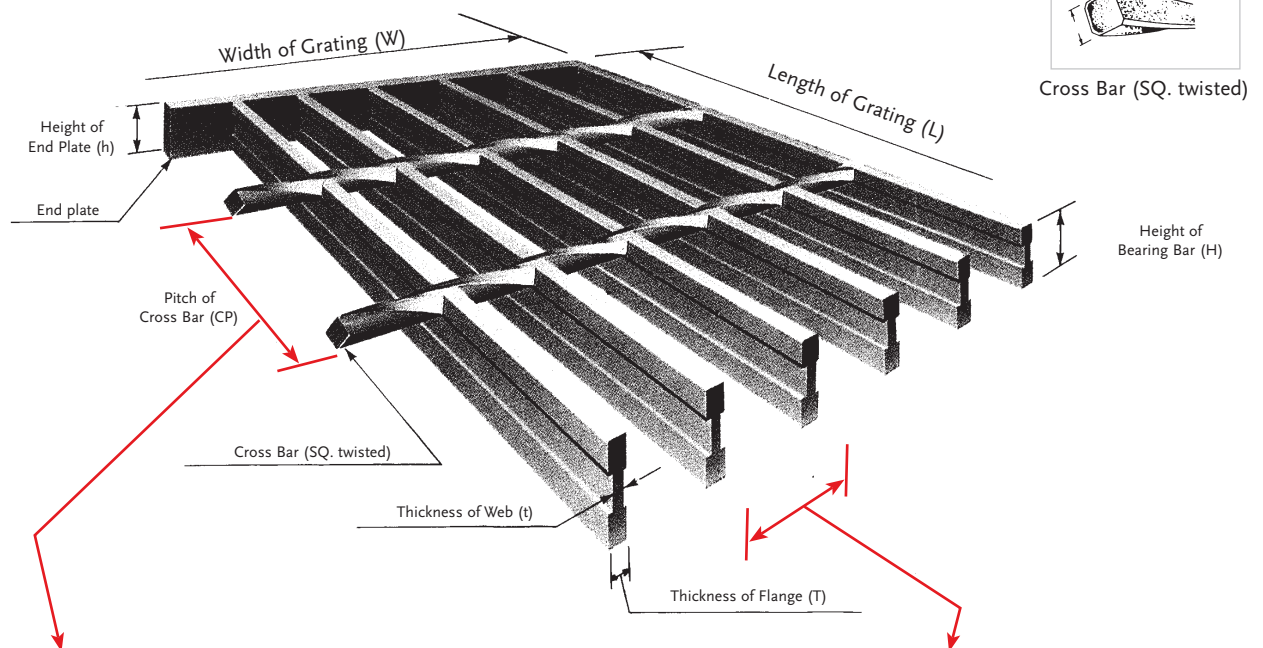
Multi-purpose and diversity are some of the best attributes a product can offer, and the Perry Grating products certainly offer these. Grating has many uses – not only in industry as walkway flooring but also as screens, drain covers and stairways.

## Better still, Perry Grating is unique!

Similar to a steel 'I Beam' where the strength is in the flanges, the bar profile gives a 25% weight reduction while retaining strength.

This design saves not only weight, but also material cost and galvanizing cost. Savings are also made in the design of the supporting structure for the grate, as the product is so much lighter and stress is reduced.

## Construction of Perry Grating



### Pitch of Cross Bar

A centre distance between the two cross bars adjacent to each other is called pitch of cross bar, and its standard is 100mm.

### Pitch of Bearing Bar

A centre distance between the two bearing bars adjacent to each other is called pitch of load bar. Standard pitch is 30mm (Series 1), 40mm (Series 2).

# How to order Perry Grating

## Stock panels ready to use off the shelf

We carry a full range of off the shelf stock panel sizes. All panels are Series One 995 x 5800mm and Series Two 1005 x 5800mm, and sizes range from 20mm load bar to 75mm load bar. Please contact us for sizes and availability of the quantity you require. Phone 0800 425 848

Panels are fabricated normally to the nearest load bar spacing e.g 600mm - 605mm.

We recommend 4 fixing clips per square metre.

## Made to order

What we require from the client:

- Type of load bar required
- Load bar centres (ie. 30mm, 40mm)
- Load bar directions
- Cutouts fully dimensioned
- Kick plate detail if any



Auckland Container Port

## International Standards Guaranteed

When quality is the cornerstone of all operations, standards must follow international benchmarks.

Supplied throughout Australasia PERRY GRATING is made to international standards and the factory is accredited to **ISO 9001:2000**.

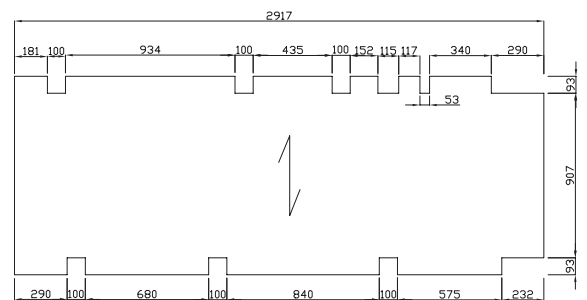
The ISO 9001:2000 is an international quality management system involving external audits and stringent quality management criteria.

Incorporating fourteen grate forging machines, the factory has high manufacturing tolerances.

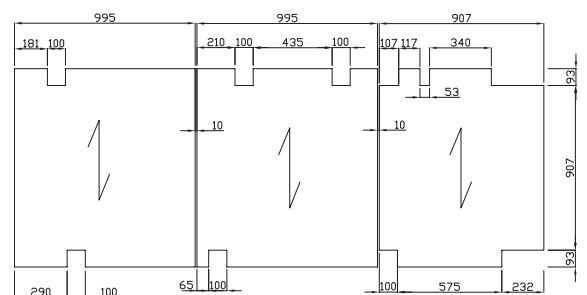
This is shown in the unique vertical alignment of the load bars resulting in a stronger, better-looking product for our customers.

The standard applicable for galvanizing is **AS/NZS 4680 – Hot Dip Galvanized (zinc) coatings on fabricated ferrous articles**.

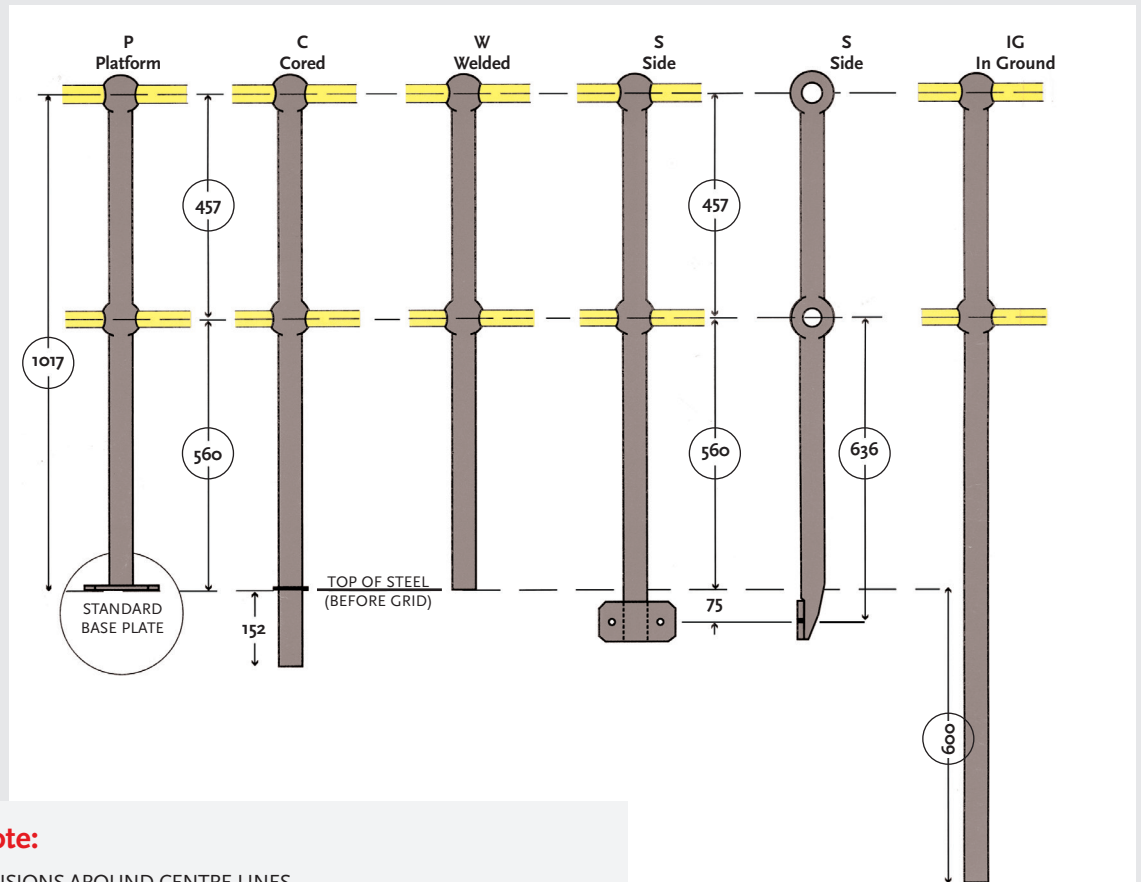
### As drawn



### As detailed

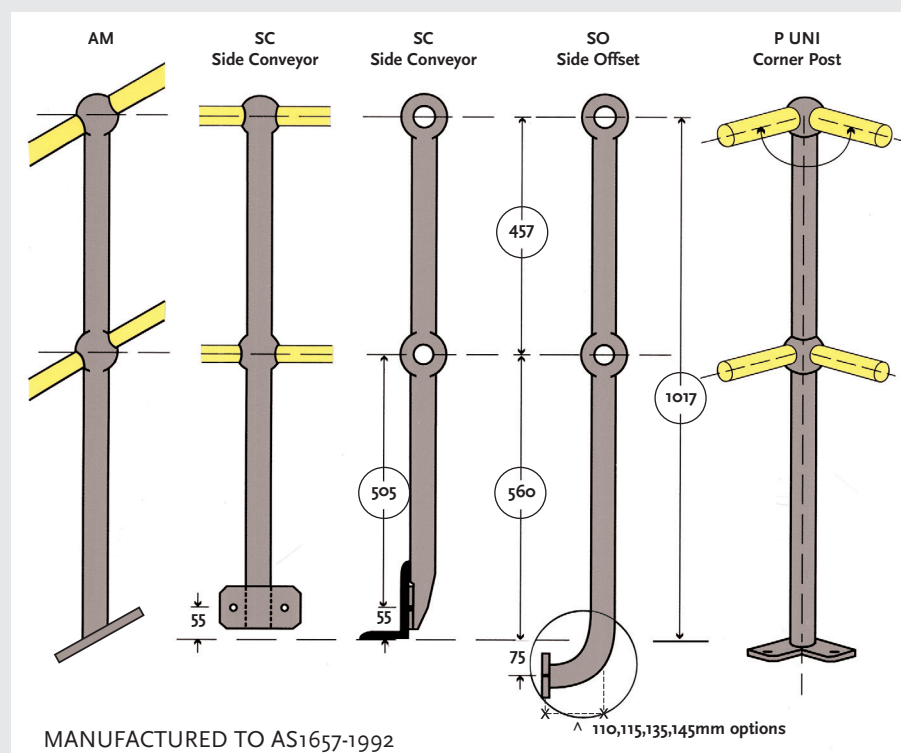


# Standard Stanchions



## Please note:

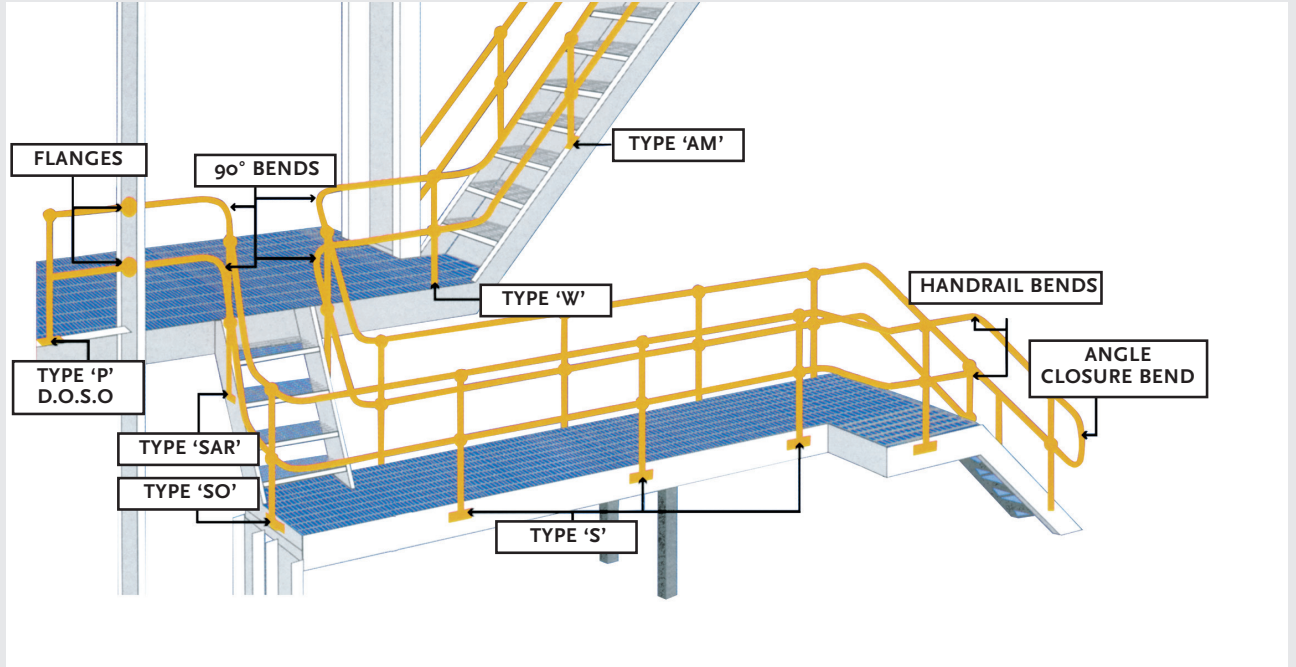
- ALL DIMENSIONS AROUND CENTRE LINES
- ALL DIMENSIONS IN mm
- ALL DIMENSIONS SHOWN CAN BE ALTERED TO SUIT ANY REQUIREMENTS
- ALL STANCHIONS AVAILABLE DRILLED ONE SIDE ONLY (D.O.S.O.)



Sydney Tower

\* BEFORE ORDERING:  
Check suitability of this dimension  
to match adjoining horizontal rail  
and adjust if necessary.

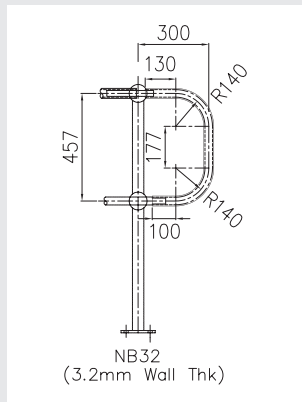
# A Walkway System



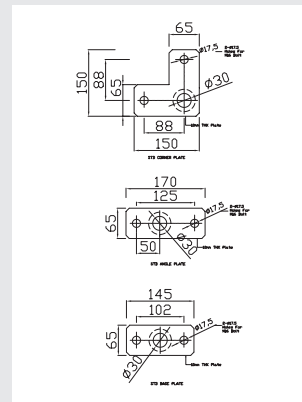
*Pohokura Oil Project*

# Hand Rail and Grating Accessories

## Closure and Rail Bends



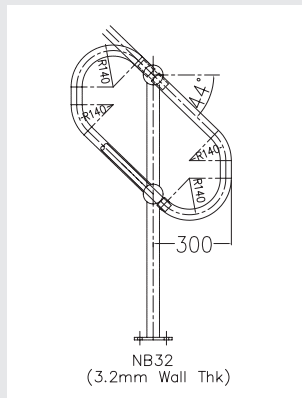
End Closure Bends



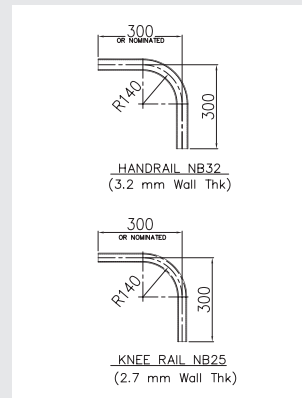
Corner Base Plates

AM Base Plates

Standard Base Plates

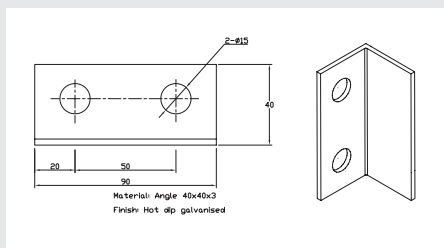


Angle Closure Bends to suit AM Stanchions



Top Rail Bends

Knee Rail Bends



Kickplate Bracket

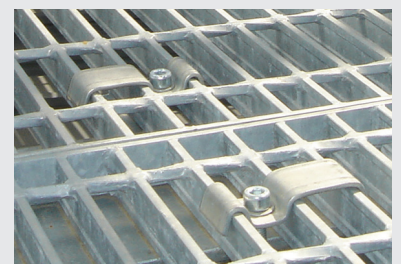
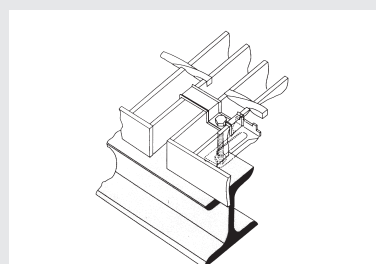
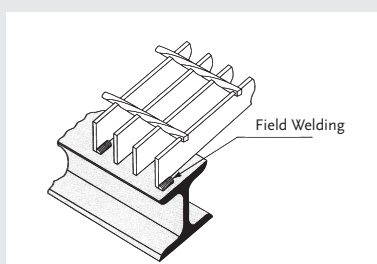
### Important note:

A minimum of four clips per panel must be used to restrain floor panels. Where larger panels are to be fixed, it is advisable to use extra clips on any available intermediate supports.

### 1. Field welding

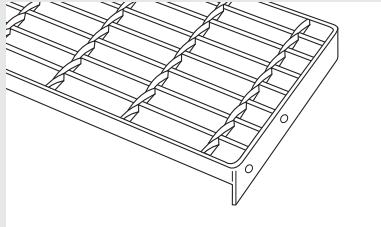
Recommended for all permanently installed gratings, and for gratings that are to be removed only at infrequent intervals.

This can be secured quickly and safely by one person, working from the floor surface.



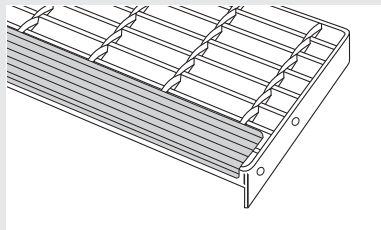
# Stair Treads

## Made to order



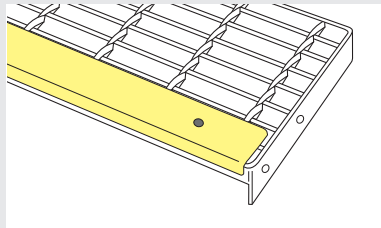
**PT1** Welded Banded only

**PT2** Bolted end plates



**PT3** Welded Banded only with strip nosing

**PT4** Bolted plates with strip nosing



**PT5** Welded Banded only abrasive nosing

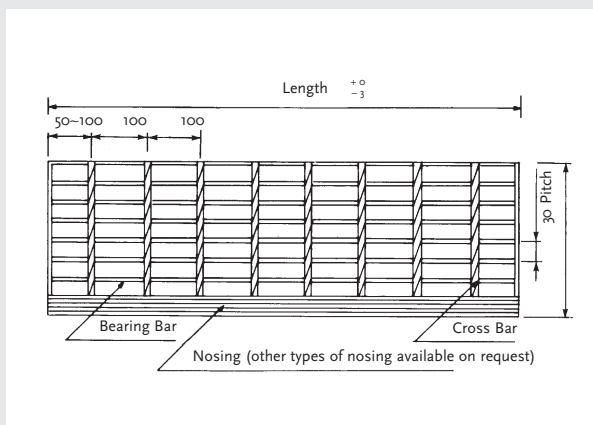
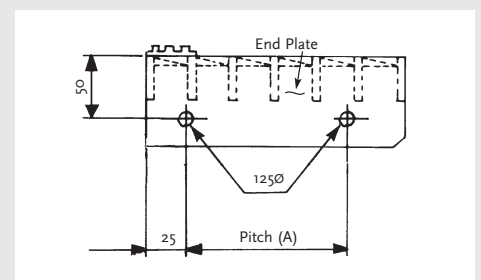
**PT6** Bolted end plates abrasive nosing



\* Stair Treads also available in FRP.

## Made to order

We can supply any size/configuration of stair tread at competitive rates and delivery times.



### Recommended Tread Width

Load bearing bars at 30mm or 40mm pitch

| Width (mm)               | 215          | 245 | 275 | 305 |
|--------------------------|--------------|-----|-----|-----|
| Bolt pitch (A)           | 125          | 125 | 125 | 125 |
| Length (mm)              | as requested |     |     |     |
| Size of bearing bars (H) |              |     |     |     |

# Load Charts Series I

## LOAD AND DEFLECTION TABLE - SERIES I (LOAD BAR PITCH 30MM)

This table is theoretical and is based on a uniformly distributed load of 300 kg/m<sup>2</sup> (3kPa)

| Mesh Size  | Load Bar Size (mm) | Serrated Bar Factors |      | Weight per sq/m (kg) | Span (mm) |       |       |       |       |       |       |       |       |       |       |       |       |       |      |      |       |      |
|------------|--------------------|----------------------|------|----------------------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|------|
|            |                    |                      |      |                      | S         | D     | 600   | 750   | 900   | 1050  | 1200  | 1350  | 1500  | 1650  | 1800  | 1950  | 2100  | 2250  | 2400 | 2550 | 2700  | 2850 |
|            |                    |                      |      |                      |           |       |       |       |       |       |       |       |       |       |       |       |       |       |      |      |       |      |
| PG203/FB   | 19x3               |                      |      | 19                   | S         | 3.73  | 4.66  | 5.59  | 6.85  | 8.95  |       |       |       |       |       |       |       |       |      |      |       |      |
|            |                    |                      |      |                      | D         | 0.7   | 1.38  | 2.38  | 3.97  | 6.77  |       |       |       |       |       |       |       |       |      |      |       |      |
| PG253/FB   | 25x3               | 0.88                 | 1.21 | 24                   | S         | 2.16  | 2.70  | 3.23  | 3.96  | 5.18  | 8.09  |       |       |       |       |       |       |       |      |      |       |      |
|            |                    |                      |      |                      | D         | 0.31  | 0.60  | 1.04  | 1.73  | 2.96  | 7.23  |       |       |       |       |       |       |       |      |      |       |      |
| PG255/IB   | 25x3               | 0.82                 | 1.30 | 32                   | S         | 1.39  | 1.74  | 2.09  | 2.56  | 3.35  | 4.24  | 4.71  | 6.33  |       |       |       |       |       |      |      |       |      |
|            |                    |                      |      |                      | D         | 0.12  | 0.29  | 0.61  | 1.12  | 1.91  | 3.06  | 4.67  | 6.84  |       |       |       |       |       |      |      |       |      |
| PG303/FB   | 32x3               | 0.91                 | 1.16 | 30                   | S         | 1.32  | 1.65  | 1.98  | 2.42  | 3.16  | 4.00  | 4.94  | 5.98  | 7.12  |       |       |       |       |      |      |       |      |
|            |                    |                      |      |                      | D         | 0.15  | 0.29  | 0.50  | 0.83  | 1.41  | 2.26  | 3.45  | 5.05  | 7.15  |       |       |       |       |      |      |       |      |
| PG305/IB   | 32x5               | 0.84                 | 1.25 | 38                   | S         | 0.86  | 1.08  | 1.29  | 1.59  | 2.07  | 2.62  | 3.24  | 3.92  | 4.66  | 5.47  | 6.34  |       |       |      |      |       |      |
|            |                    |                      |      |                      | D         | 0.10  | 0.19  | 0.33  | 0.54  | 0.93  | 1.48  | 2.26  | 3.31  | 4.68  | 6.45  | 8.68  |       |       |      |      |       |      |
| PG405/IB   | 44x5               | 0.89                 | 1.16 | 50                   | S         | 0.46  | 0.58  | 0.69  | 0.85  | 1.11  | 1.40  | 1.73  | 2.09  | 2.49  | 2.92  | 3.39  | 3.89  | 4.43  | 5.00 | 5.60 | 6.24  |      |
|            |                    |                      |      |                      | D         | 0.04  | 0.07  | 0.13  | 0.21  | 0.36  | 0.58  | 0.88  | 1.28  | 1.82  | 2.51  | 3.37  | 4.44  | 5.75  | 7.32 | 9.20 | 11.43 |      |
| PG505/IB   | 50x5               | 0.92                 | 1.12 | 55                   | S         | 0.37  | 0.46  | 0.55  | 0.67  | 0.88  | 1.11  | 1.37  | 1.66  | 1.98  | 2.32  | 2.69  | 3.09  | 3.51  | 3.97 | 4.45 | 4.96  | 5.49 |
|            |                    |                      |      |                      | D         | 0.03  | 0.05  | 0.09  | 0.15  | 0.25  | 0.40  | 0.61  | 0.90  | 1.27  | 1.75  | 2.00  | 3.10  | 4.02  | 5.12 | 6.43 | 7.99  | 9.81 |
| PG657/IB   | 65x7               |                      |      | 85                   | S         | 0.18  | 0.23  | 0.28  | 0.34  | 0.44  | 0.56  | 0.69  | 0.84  | 1.00  | 1.17  | 1.36  | 1.56  | 1.78  | 2.00 | 2.25 | 2.50  | 2.77 |
| 35.5 Pitch |                    |                      |      |                      | D         | 0.01  | 0.02  | 0.034 | 0.057 | 0.098 | 0.156 | 0.24  | 0.35  | 0.49  | 0.68  | 0.91  | 1.21  | 1.56  | 1.99 | 2.50 | 3.10  | 3.81 |
| PG757/IB   | 75x7               |                      |      | 96                   | S         | 0.14  | 0.17  | 0.21  | 0.26  | 0.33  | 0.42  | 0.52  | 0.63  | 0.75  | 0.88  | 1.03  | 1.17  | 1.37  | 1.51 | 1.69 | 1.88  | 2.09 |
| 35.5 Pitch |                    |                      |      |                      | D         | 0.007 | 0.013 | 0.022 | 0.037 | 0.064 | 0.102 | 0.155 | 0.228 | 0.322 | 0.444 | 0.597 | 0.787 | 1.019 | 1.30 | 1.63 | 2.03  | 2.49 |

- The shaded area of the table indicates grating with deflection less than span/300mm
- If serrated bar grating is selected, use the factors S and D to calculate stress and deflection
- For uniformly distributed loads other than 300kg/m<sup>2</sup> (3kPa) grating stress and deflection can be calculated using the factor shown in the following table

S = Stress in kg/mm<sup>2</sup>  
D = Deflection in mm  
Allowable Stress: 18kg/mm<sup>2</sup> (180MPa)  
Allowable Deflection: L (Span)/300mm

### Stress and Deflection Factor

|                                |      |      |     |      |      |     |
|--------------------------------|------|------|-----|------|------|-----|
| Uniform Load kg/m <sup>2</sup> | 200  | 250  | 300 | 400  | 500  | 750 |
| Factor (i)                     | 0.67 | 0.83 | 1   | 1.33 | 1.67 | 2.5 |

### Sample Calculation

Uniform Load: 500kg/m<sup>2</sup> (5kPa) → factor (i) of 1.67  
Grating code: PG 305/1      Span: 1500mm  
Stress (S) = 3.24 x 1.67 = 5.41kg/mm<sup>2</sup>  
Deflection (D) = 2.26 x 1.67 = 3.77mm

# Load Charts Series II

## LOAD AND DEFLECTION TABLE - SERIES II (LOAD BAR PITCH 40MM)

This table is theoretical and is based on a uniformly distributed load of 300 kg/m<sup>2</sup> (3kPa)

| Grating Code | Load Bar Size (mm) | Serrated Bar Factors | Weight per sq/m (kg) | Span (mm) |       |       |       |       |       |       |       |       |       |       |       |      |      |      |       |       |      |
|--------------|--------------------|----------------------|----------------------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|-------|-------|------|
|              |                    |                      |                      | 600       | 750   | 900   | 1050  | 1200  | 1350  | 1500  | 1650  | 1800  | 1950  | 2100  | 2250  | 2400 | 2550 | 2700 | 2850  | 3000  |      |
| PG253-FB     | 25x3               | 0.88                 | 1.21                 | S         | 2.88  | 3.59  | 4.31  | 5.28  | 6.90  | 8.73  | 10.78 |       |       |       |       |      |      |      |       |       |      |
|              |                    |                      |                      | D         | 0.41  | 0.80  | 1.39  | 2.31  | 3.95  | 6.32  | 9.63  |       |       |       |       |      |      |      |       |       |      |
| PG255-IB     | 25x5               | 0.82                 | 1.30                 | S         | 1.86  | 2.32  | 2.79  | 3.42  | 4.46  | 5.65  | 6.97  | 8.44  |       |       |       |      |      |      |       |       |      |
|              |                    |                      |                      | D         | 0.266 | 0.519 | 0.897 | 1.495 | 2.55  | 4.08  | 6.23  | 9.12  |       |       |       |      |      |      |       |       |      |
| PG303-FB     | 32x3               | 0.91                 | 1.30                 | S         | 1.76  | 2.20  | 2.64  | 3.23  | 4.22  | 5.34  | 6.59  | 7.98  |       |       |       |      |      |      |       |       |      |
|              |                    |                      |                      | D         | 0.20  | 0.38  | 0.66  | 1.10  | 1.88  | 3.02  | 4.60  | 6.73  |       |       |       |      |      |      |       |       |      |
| PG305-IB     | 32x5               | 0.84                 | 1.16                 | S         | 1.15  | 1.44  | 1.73  | 2.11  | 2.76  | 3.50  | 4.32  | 5.22  | 6.21  | 7.29  | 8.46  |      |      |      |       |       |      |
|              |                    |                      |                      | D         | 0.128 | 0.25  | 0.43  | 0.72  | 1.23  | 1.98  | 3.01  | 4.41  | 6.24  | 8.6   | 11.57 |      |      |      |       |       |      |
| PG405-IB     | 44x5               | 0.89                 | 1.25                 | S         | 0.61  | 0.77  | 0.92  | 1.13  | 1.48  | 1.87  | 2.31  | 2.79  | 3.32  | 3.90  | 4.52  | 5.19 | 5.90 | 6.66 | 7.47  |       |      |
|              |                    |                      |                      | D         | 0.05  | 0.09  | 0.16  | 0.28  | 0.48  | 0.77  | 1.17  | 1.71  | 2.42  | 3.34  | 4.49  | 5.92 | 7.66 | 9.77 | 12.28 |       |      |
| PG505-IB     | 50x5               | 0.92                 | 1.16                 | S         | 0.49  | 0.61  | 0.73  | 0.90  | 1.17  | 1.48  | 1.83  | 2.21  | 2.64  | 3.09  | 3.59  | 4.12 | 4.69 | 5.29 | 5.93  | 6.61  |      |
|              |                    |                      |                      | D         | 0.035 | 0.068 | 0.118 | 0.196 | 0.335 | 0.536 | 0.82  | 1.20  | 1.70  | 2.33  | 3.14  | 4.14 | 5.36 | 6.83 | 8.58  | 10.65 |      |
| PG657-IB     | 65x5               | 1.12                 | 78                   | S         | 0.21  | 0.26  | 0.31  | 0.39  | 0.50  | 0.64  | 0.79  | 0.95  | 1.13  | 1.33  | 1.54  | 1.77 | 2.01 | 2.27 | 2.55  | 2.84  | 3.14 |
|              |                    |                      |                      | D         | 0.012 | 0.023 | 0.039 | 0.065 | 0.111 | 0.117 | 0.27  | 0.395 | 0.56  | 0.77  | 1.04  | 1.37 | 1.77 | 2.25 | 2.83  | 3.52  | 4.32 |
| PG757-IB     | 75x7               |                      | 87                   | S         | 0.16  | 0.20  | 0.24  | 0.29  | 0.38  | 0.48  | 0.59  | 0.72  | 0.85  | 1.00  | 1.16  | 1.33 | 1.51 | 1.71 | 1.92  | 2.14  | 2.37 |
|              |                    |                      |                      | D         | 0.008 | 0.015 | 0.025 | 0.042 | 0.072 | 0.116 | 0.176 | 0.258 | 0.365 | 0.503 | 0.68  | 0.89 | 1.15 | 1.47 | 1.85  | 2.30  | 2.82 |

- The shaded area of the table indicates grating with deflection less than span/300mm.
- If serrated bar grating is selected, use the factors S and D to calculate stress and deflection.
- For uniformly distributed loads other than 300kg/m<sup>2</sup> (3kPa) grating stress and deflection can be calculated using the factor shown in the following table

S = Stress in kg/mm<sup>2</sup>  
D = Deflection in mm  
Allowable Stress: 18kg/mm<sup>2</sup> (180MPa)  
Allowable Deflection: L(Span)/300mm

### Stress and Deflection Factor

| Uniform Load kg/m <sup>2</sup> | 200  | 250  | 300 | 400  | 500  | 750 |
|--------------------------------|------|------|-----|------|------|-----|
| Factor (i)                     | 0.67 | 0.83 | 1   | 1.33 | 1.67 | 2.5 |

### Sample Calculation

Uniform Load: 500kg/m<sup>2</sup> (5kPa) → factor (i) of 1.67  
Grating code: PG 305/2 Span: 1500mm  
Stress (S) = 4.32X1.67=7.21kg/mm<sup>2</sup>  
Deflection (D) = 3.01X1.67=5.03mm

# Loading Tables

## Light and medium duty (maximum recommended spans)

| Load bar size | Maintenance floors<br>No public use |          | Pedestrian traffic<br>Public, residential and light use |          | Pedestrian traffic<br>Public, commercial and crowd use |          |
|---------------|-------------------------------------|----------|---------------------------------------------------------|----------|--------------------------------------------------------|----------|
|               | 2.5Kpa<br>Deflection = 5mm          |          | 3.0Kpa<br>Deflection = 5mm                              |          | 4.0Kpa<br>Deflection = 5mm                             |          |
|               | Series 1                            | Series 2 | Series 1                                                | Series 2 | Series 1                                               | Series 2 |
| PG 253        | 1410                                | 1310     | 1350                                                    | 1250     | 1250                                                   | 1170     |
| PG 303        | 1700                                | 1580     | 1620                                                    | 1510     | 1510                                                   | 1400     |
| PG 255        | 1590                                | 1480     | 1520                                                    | 1420     | 1420                                                   | 1320     |
| PG 305        | 1910                                | 1780     | 1820                                                    | 1700     | 1700                                                   | 1580     |
| PG 405        | 2420                                | 2250     | 2310                                                    | 2150     | 2150                                                   | 2000     |
| PG 505        | Not applicable                      |          | Not applicable                                          |          | Not applicable                                         |          |
| PG 657        | Not applicable                      |          | Not applicable                                          |          | Not applicable                                         |          |
| PG 757        | Not applicable                      |          | Not applicable                                          |          | Not applicable                                         |          |

## Heavy duty (maximum recommended spans)

| Load bar size | General factories and workshops, motor rooms,<br>wheel trolleys |          |                   |          | General heavy loading areas, boiler equipment,<br>heavy equipment areas |          |                   |          |
|---------------|-----------------------------------------------------------------|----------|-------------------|----------|-------------------------------------------------------------------------|----------|-------------------|----------|
|               | 5.0Kpa                                                          |          |                   |          | 7.5Kpa                                                                  |          |                   |          |
|               | Deflection = 5mm                                                |          | Deflection = 10mm |          | Deflection = 5mm                                                        |          | Deflection = 10mm |          |
|               | Series 1                                                        | Series 2 | Series 1          | Series 2 | Series 1                                                                | Series 2 | Series 1          | Series 2 |
| PG 253        | Not applicable                                                  |          |                   |          | Not applicable                                                          |          |                   |          |
| PG 303        | Not applicable                                                  |          |                   |          | Not applicable                                                          |          |                   |          |
| PG 255        | 1340                                                            | 1250     | 1590              | 1480     | 1210                                                                    | 1130     | 1440              | 1340     |
| PG 305        | 1610                                                            | 1500     | 1910              | 1780     | 1450                                                                    | 1350     | 1730              | 1610     |
| PG 405        | 2040                                                            | 1890     | 2420              | 2250     | 1840                                                                    | 1710     | 2190              | 2040     |
| PG 505        | 2220                                                            | 2070     | 2650              | 2460     | 2010                                                                    | 1870     | 2390              | 2230     |
| PG 657        | 2940                                                            | 2730     | 3500              | 3250     | 2650                                                                    | 2470     | 3160              | 2940     |
| PG 757        | 3260                                                            | 3040     | 3890              | 3620     | 2950                                                                    | 2750     | 3510              | 3270     |



Pohokura Oil Project

# FRP

## Moulded FRP Grating

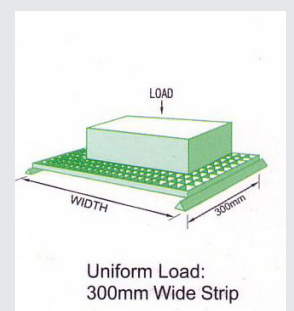
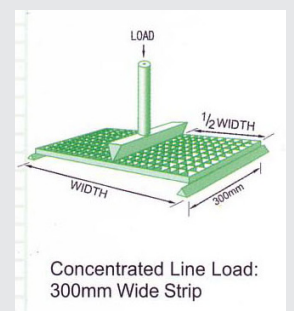
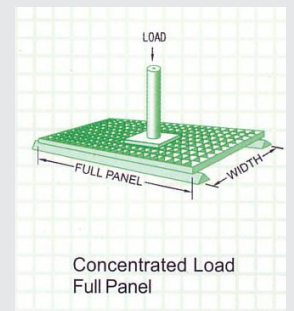
Fibre Reinforced Plastic (FRP) gratings are widely used as trench covers, grills, floorings, platforms, ramps, pet covers, tower packing supports, walkways, stairs, battery racks, screens, bridges, railings, machinery guards, wash racks, etc. in the industries such as chemical, petroleum, electronics, paper, printing and dyeing, water treatment, pollution control, offshore, power and brewing.

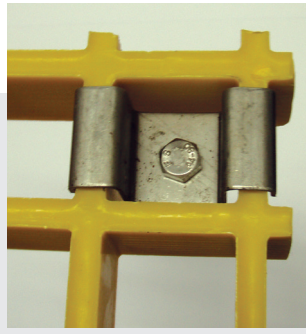
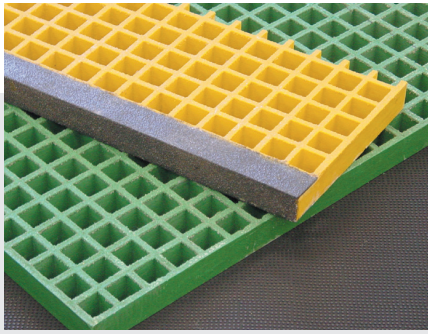
- Sheet sizes are 1220 x 3660
- Cut to order or standard stock panels
- 25mm depth
- 38mm depth
- 50mm depth
- Available in both isophalic or vinylester resin
- Anti slip grit top standard



## Load Sheet Under 1% Deflection

| Description                                      | Span (mm) | Concentrated Point Load (kg) | Concentrated Line Load (kg/300mm) | Uniform Load (kg/sqm) |
|--------------------------------------------------|-----------|------------------------------|-----------------------------------|-----------------------|
| Mesh size (mm):<br>38.1 x 38.1<br>Thick: 25.4 mm | 305       | 1050                         | 683                               | 4956                  |
|                                                  | 457       | 582                          | 297                               | 2943                  |
|                                                  | 610       | 338                          | 158                               | 1224                  |
|                                                  | 914       | 187                          | 71                                | 397                   |
|                                                  | 1219      | 142                          | -                                 | 160                   |
| Mesh size (mm):<br>38.1 x 38.1<br>Thick: 38.1 mm | 305       | 1909                         | 1457                              | 14270                 |
|                                                  | 457       | 1611                         | 998                               | 8163                  |
|                                                  | 610       | 1211                         | 552                               | 4140                  |
|                                                  | 914       | 688                          | 245                               | 1421                  |
|                                                  | 1219      | 526                          | 137                               | 563                   |
| Mesh size (mm):<br>40 x 40<br>Thick: 40 mm       | 305       | 1909                         | 1567                              | 15210                 |
|                                                  | 457       | 1622                         | 1032                              | 8441                  |
|                                                  | 610       | 1421                         | 637                               | 4889                  |
|                                                  | 914       | 710                          | 275                               | 1452                  |
|                                                  | 1000      | 674                          | 232                               | 1133                  |
| Mesh size (mm):<br>50.7 x 50.7<br>Thick: 50.8 mm | 305       | -                            | 2183                              | -                     |
|                                                  | 457       | 6669                         | 1552                              | 15964                 |
|                                                  | 610       | 2580                         | 896                               | 7461                  |
|                                                  | 914       | 1313                         | 417                               | 2545                  |
|                                                  | 1219      | 959                          | 238                               | 1105                  |
| Mesh size (mm):<br>25 x 100<br>Thick: 25 mm      | 305       | 1242                         | 1015                              | 11637                 |
|                                                  | 457       | 715                          | 479                               | 4656                  |
|                                                  | 610       | 420                          | 248                               | 2035                  |
|                                                  | 914       | 250                          | 105                               | 572                   |
|                                                  | 1000      | 228                          | 90                                | 447                   |

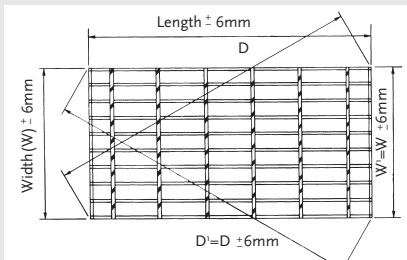




## Chemical Resistance Guide for FRP Grating

| CHEMICAL ENVIRONMENT | VINYL ESTER RESIN |                      | ISOPHTHALIC POYESTER RESIN |                      |
|----------------------|-------------------|----------------------|----------------------------|----------------------|
|                      | Concentration (%) | Max. Oper. Temp. (C) | Concentration (%)          | Max. Oper. Temp. (C) |
| Hydrochloric Acid    | 37                | 65                   | 37                         | 24                   |
| Sulfuric Acid        | 50                | 80                   | 25                         | 24                   |
| Nitric Acid          | 20                | 54                   | 20                         | 21                   |
| Phosphoric Acid      | 100               | 99                   | 100                        | 49                   |
| Hydrobromic Acid     | 50                | 65                   | 50                         | 49                   |
| Tartaric Acid        | ALL               | 99                   | ALL                        | 77                   |
| Lactic Acid          | ALL               | 99                   | ALL                        | 77                   |
| Oxalic Acid          | ALL               | 99                   | ALL                        | 24                   |
| Borax                | SAT               | 99                   | SAT                        | 77                   |
| Citrix Acid          | ALL               | 99                   | ALL                        | 77                   |
| Acetic Acid          | 50                | 82                   | 50                         | 52                   |
| Benzoic Acid         | SAT               | 99                   | SAT                        | 66                   |
| Methacrylic Acid     | 99                | 35                   | -                          | -                    |
| Hydrofluoric Acid    | 10                | 65                   | -                          | -                    |
| Ferric Chloride      | ALL               | 99                   | ALL                        | 77                   |
| Sodium Sulfate       | ALL               | 99                   | ALL                        | 77                   |
| Ammonium Chloride    | ALL               | 99                   | ALL                        | 77                   |
| Magnesium Sulfate    | ALL               | 99                   | ALL                        | 77                   |
| Potassium Nitrate    | ALL               | 99                   | ALL                        | 77                   |
| Sodium Cyanide       | ALL               | 99                   | ALL                        | 77                   |
| Sodium Hydroxide     | 10                | 68                   | N/R                        | -                    |
| Calcium Carbonate    | ALL               | 82                   | ALL                        | 77                   |
| Carbon Tetrachloride | THICK             | 40                   | N/R                        | -                    |
| Formaldehyde         | 37                | 60                   | 50                         | 24                   |
| Methanol             | 10                | 84                   | N/R                        | -                    |
| Ethanol              | 10                | 82                   | 50                         | 24                   |
| Gasoline             | 100               | 82                   | 100                        | 24                   |
| Benzene              | THICK             | 40                   | N/R                        | -                    |
| Glycerine            | 100               | 99                   | 100                        | 66                   |
| Water Distilled      | 100               | 82                   | 100                        | 77                   |
| Sea Water            | ALL               | 99                   | ALL                        | 70                   |
| Glucose              | 100               | 99                   | 100                        | 77                   |
| Vinegar              | 100               | 99                   | 100                        | 77                   |
| Chlorine Water       | SAT               | 93                   | SAT                        | 27                   |

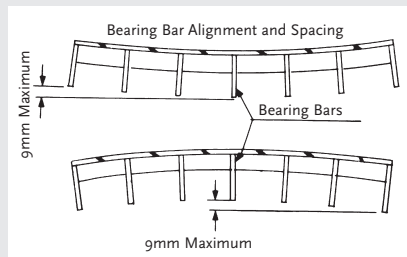
# Manufacturing Tolerances



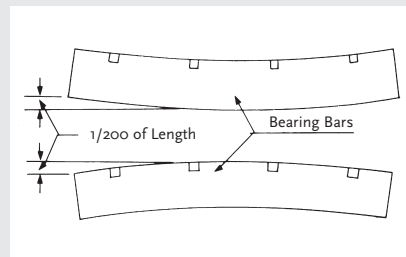
W and W' are overall lengths of cross bars at opposite ends of panel.

D and D' are overall diagonal dimensions

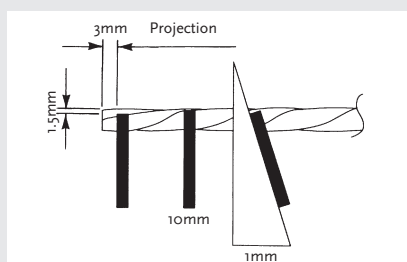
## Transverse Bow



## Longitudinal Bow



## Cross Bar Location and Bearing Bar



## LOAD BAR CHART

| Number of Bars | Series 1 & 2 | FRP  |
|----------------|--------------|------|
| 41             | 1205         | 1530 |
| 40             | 1175         | 1492 |
| 39             | 1145         | 1454 |
| 38             | 1115         | 1416 |
| 37             | 1085         | 1378 |
| 36             | 1055         | 1339 |
| 35             | 1025         | 1301 |
| 34             | 995          | 1263 |
| 33             | 965          | 1225 |
| 32             | 935          | 1187 |
| 31             | 905          | 1149 |
| 30             | 875          | 1111 |
| 29             | 845          | 1073 |
| 28             | 815          | 1035 |
| 27             | 785          | 997  |
| 26             | 755          | 958  |
| 25             | 725          | 920  |
| 24             | 695          | 882  |
| 23             | 665          | 844  |
| 22             | 635          | 806  |
| 21             | 605          | 768  |
| 20             | 575          | 730  |
| 19             | 545          | 692  |
| 18             | 515          | 654  |
| 17             | 485          | 616  |
| 16             | 455          | 577  |
| 15             | 425          | 539  |
| 14             | 395          | 501  |
| 13             | 365          | 463  |
| 12             | 335          | 425  |
| 11             | 305          | 387  |
| 10             | 275          | 349  |
| 9              | 245          | 311  |
| 8              | 215          | 273  |
| 7              | 185          | 235  |
| 6              | 155          | 196  |
| 5              | 125          | 158  |
| 4              | 95           | 120  |
| 3              | 65           | 82   |
| 2              | 35           | 44   |

NOTE:

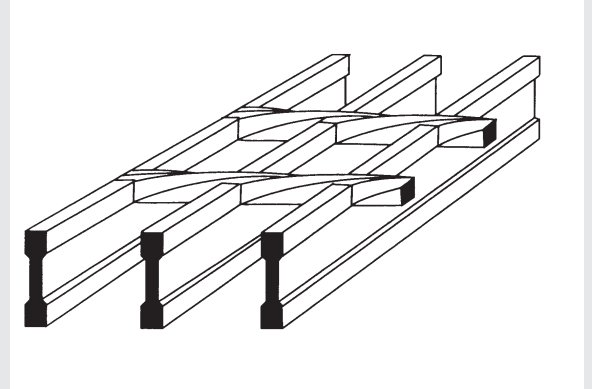
- Sizes are overall outside to outside of bars.
- Calculations based on 5mm bars for Series 1 & 2.6mm for FRP
- FRP bar centres are at 38.1mm

# Grating Types

## I Bar Type Grating

The bearing bar comes in the form of an I-Section. This type of grating is used where high strength is required and light weight is critical. Commonly used for platforms and walkways.

| PG 255                                                                            | PG 305                                                                            | PG 405                                                                            | PG 505                                                                            |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|  |  |  |  |

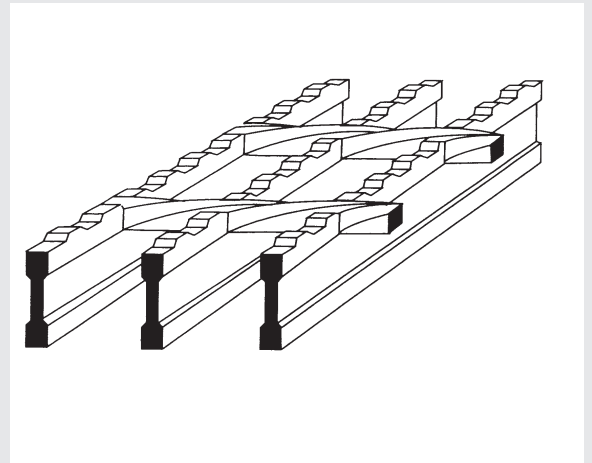


P note:

- Load bar sizes range from 20mm to 100mm depth
- Are available in both FLAT BAR and I BAR

## Serrated Type I Bar Grating

The bearing bar comes in the form of an I-Section with the top surface formed by a series of notches. In addition to its high strength and light weight, this type of grating also has non-slip characteristics, no sharp edges and serrations are rolled on, to meet strict health and safety requirements. Hot rolled serrations help stop lacerations if someone falls on the grating.



Pohokura Oil Project

# Terminology for Grating

## Load Bar

Flat bar or I bar from which grating is made

## Cross bar

This is a twisted square bar forged into the top of the load bar.

In Stainless Steel Grating this is a round bar forged into the top of the load bar.

In Aluminium this is a square bar inserted through punched holes in the load bar and swaged to hold it in position.

## Banded

This refers to the process of welding a flat bar to the load bars after they have been cut to size to provide a uniform appearance around all sides of a grating panel. This process also helps prevent injury from laceration during installation and assists in keeping the panels flat.

## Cut to Size Only

Refers to the process of leaving the panels with a raw cut edge and not banded as described above.

## Exact Size

Refers to the requirement to make the panels to an exact dimension and not to be adjusted to the nearest width across the standard pattern of the load bars.

## Fingers

IN FRP (Fibre Reinforced Polymer) grating this describes a panel cut that does run adjacent to the load bar.

## Span

Overall dimension of a panel measured parallel with load bar.

This is indicated on drawings by this symbol 

## Width

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 slip resistance.

## Nosing

A member attached to or on the leading edge of a stair tread or at the top of a flight of stairs to assist slip resistance and to give a clear visual indication of the edge of the stairtreads.

These can be:

- Abrasive yellow nosing (FRP Glow or metal)
- Strip Nosing
- Floor plate

## 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 and is typically 130 x 6mm.

## Cut Out

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

## Penetrations

As for cut outs, but typically within the grating panel and not on the edge.

## Gross Area

The total area of grating as shown on drawings using overall width and length dimensions of grating ie:  $W \times L$ .

The gross area is always the area calculated for invoicing purposes.

# Aluminium Grating

Our Aluminium Grating is used in both industrial and Architectural Applications.

As well as platform walkways highly corrosive environments, its aesthetic appeal makes it ideal for, Security screens, side barriers, entranceways and parking deck facades.

Industrial Applications

- Sewage Treatment Plants
- Wastewater Treatment
- Chemical Process Plants
- Milk Processing Plants
- Variety of Marine Applications

## Aluminium Grating Load Table (load bars at 30mm pitch)

| Type         | Cross Rod Pitch (mm) | Mass kg/m² | Load Bar Size (mm) | Span (mm) |        |        |        |        |       |       |       |       |       |       |       |       |
|--------------|----------------------|------------|--------------------|-----------|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|
|              |                      |            |                    |           | 450    | 600    | 750    | 900    | 1050  | 1200  | 1500  | 1800  | 2100  | 2400  | 2700  | 3000  |
| PGA705/1/100 | 100                  | 36.69      | 70x5               | S         | 533.50 | 299.20 | 191.40 | 133.10 | 97.80 | 62.59 | 32.66 | 16.59 | 10.24 | 6.45  | 4.24  | 3.05  |
| PGA705/1/50  | 50                   | 38.09      |                    | D         | 0.86   | 1.53   | 2.39   | 3.44   | 4.68  | 5.13  | 6.52  | 7.00  | 8.00  | 8.57  | 9.10  | 10.00 |
| PGA655/1/100 | 100                  | 34.17      | 65x5               | S         | 485.00 | 272.00 | 174.00 | 121.00 | 88.90 | 68.00 | 28.12 | 15.38 | 9.30  | 5.84  | 3.73  |       |
| PGA655/1/50  | 50                   | 35.57      |                    | D         | 0.97   | 1.73   | 2.71   | 3.90   | 5.31  | 6.94  | 7.00  | 8.00  | 9.00  | 9.70  | 10.00 |       |
| PGA605/1/100 | 100                  | 31.65      | 60x5               | S         | 380.00 | 210.00 | 130.00 | 90.00  | 60.00 | 53.00 | 22.11 | 12.09 | 7.31  | 4.59  | 2.93  |       |
| PGA605/1/50  | 50                   | 33.05      |                    | D         | 0.96   | 1.70   | 2.58   | 3.69   | 4.56  | 6.88  | 7.00  | 8.00  | 9.00  | 9.70  | 10.00 |       |
| PGA555/1/100 | 100                  | 29.13      | 55x5               | S         | 331.00 | 186.00 | 119.00 | 82.60  | 60.60 | 40.37 | 16.92 | 9.28  | 5.66  | 3.62  |       |       |
| PGA555/1/50  | 50                   | 30.53      |                    | D         | 1.09   | 1.95   | 3.05   | 4.39   | 5.98  | 6.82  | 7.00  | 8.00  | 9.09  | 10.00 |       |       |
| PGA505/1/100 | 100                  | 26.61      | 50x5               | S         | 281.00 | 158.00 | 101.00 | 70.10  | 43.80 | 30.40 | 12.73 | 6.95  | 4.20  | 2.73  |       |       |
| PGA505/1/50  | 50                   | 28.01      |                    | D         | 1.24   | 2.21   | 3.45   | 4.97   | 5.77  | 6.84  | 7.00  | 8.00  | 9.00  | 10.00 |       |       |
| PGA455/1/100 | 100                  | 24.09      | 45x5               | S         | 237.00 | 133.00 | 85.20  | 59.10  | 37.85 | 22.71 | 10.61 | 5.71  | 3.38  |       |       |       |
| PGA455/1/50  | 50                   | 25.49      |                    | D         | 1.43   | 2.55   | 3.99   | 5.75   | 6.83  | 7.00  | 8.00  | 9.00  | 10.00 |       |       |       |
| PGA405/1/100 | 100                  | 21.57      | 40x5               | S         | 198.00 | 111.00 | 71.20  | 42.17  | 24.53 | 16.60 | 7.07  | 4.15  | 2.39  |       |       |       |
| PGA405/1/50  | 50                   | 22.97      |                    | D         | 1.71   | 3.04   | 4.75   | 5.84   | 6.31  | 7.00  | 8.00  | 9.30  | 10.00 |       |       |       |
| PGA305/1/100 | 100                  | 16.53      | 30x5               | S         | 91.46  | 51.74  | 33.04  | 19.86  | 11.53 | 7.77  | 3.84  | 1.86  |       |       |       |       |
| PGA305/1/50  | 50                   | 17.93      |                    | D         | 1.88   | 3.35   | 5.24   | 6.55   | 7.00  | 8.00  | 9.80  | 10.00 |       |       |       |       |
| PGA255/1/100 | 100                  | 14.01      | 25x5               | S         | 58.70  | 31.02  | 18.42  | 10.53  | 6.62  | 4.91  | 2.25  |       |       |       |       |       |
| PGA255/1/50  | 50                   | 15.41      |                    | D         | 2.08   | 3.47   | 5.05   | 6.00   | 7.00  | 8.90  | 10.00 |       |       |       |       |       |

(U=Safe superimposed uniformly distributed load in kN/m<sup>2</sup>)

(D= Deflection in millimetres)

(Mass in loading table is including banding bars)



## Aluminium Grating Load Table (load bars at 40mm pitch)

| Type         | Cross Rod Pitch (mm) | Mass kg/m² | Load Bar Size (mm) | Span (mm) |        |        |        |       |       |       |       |       |       |       |       |       |
|--------------|----------------------|------------|--------------------|-----------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|              |                      |            |                    |           | 450    | 600    | 750    | 900   | 1050  | 1200  | 1500  | 1800  | 2100  | 2400  | 2700  | 3000  |
| PGA705/2/100 | 100                  | 28.85      | 70x5               | S         | 400.00 | 224.00 | 143.55 | 99.80 | 73.00 | 46.90 | 24.50 | 12.44 | 7.68  | 4.80  | 3.18  | 2.28  |
| PGA705/2/50  | 50                   | 30.25      |                    | D         | 0.86   | 1.50   | 2.39   | 3.43  | 4.66  | 5.12  | 6.54  | 7.00  | 8.00  | 8.57  | 9.10  | 10.00 |
| PGA655/2/100 | 100                  | 26.89      | 65x5               | S         | 364.00 | 204.00 | 130.00 | 91.00 | 66.67 | 51.00 | 21.10 | 11.50 | 6.97  | 4.38  | 2.80  |       |
| PGA655/2/50  | 50                   | 28.29      |                    | D         | 0.97   | 1.73   | 2.71   | 3.90  | 5.31  | 6.94  | 7.00  | 8.00  | 9.00  | 9.70  | 10.00 |       |
| PGA605/2/100 | 100                  | 24.93      | 60x5               | S         | 285.00 | 157.50 | 97.50  | 67.50 | 45.00 | 39.75 | 16.58 | 9.06  | 5.48  | 3.44  | 2.20  |       |
| PGA605/2/50  | 50                   | 26.33      |                    | D         | 0.96   | 1.70   | 2.58   | 3.69  | 4.56  | 6.88  | 7.00  | 8.00  | 9.00  | 9.70  | 10.00 |       |
| PGA555/2/100 | 100                  | 22.97      | 55x5               | S         | 248.00 | 139.00 | 89.00  | 62.00 | 45.45 | 30.00 | 12.69 | 6.96  | 4.24  | 2.70  |       |       |
| PGA555/2/50  | 50                   | 24.37      |                    | D         | 1.09   | 1.95   | 3.05   | 4.39  | 5.98  | 6.82  | 7.00  | 8.00  | 9.09  | 10.00 |       |       |
| PGA505/2/100 | 100                  | 21.01      | 50x5               | S         | 210.00 | 118.50 | 75.75  | 52.57 | 32.80 | 22.80 | 9.50  | 5.20  | 3.15  | 2.00  |       |       |
| PGA505/2/50  | 50                   | 22.41      |                    | D         | 1.24   | 2.21   | 3.45   | 4.97  | 5.77  | 6.84  | 7.00  | 8.00  | 9.00  | 10.00 |       |       |
| PGA455/2/100 | 100                  | 19.05      | 45x5               | S         | 177.00 | 100.00 | 64.00  | 44.30 | 28.38 | 17.00 | 7.95  | 4.28  | 2.50  |       |       |       |
| PGA455/2/50  | 50                   | 20.45      |                    | D         | 1.43   | 2.55   | 3.99   | 5.75  | 6.83  | 7.00  | 8.00  | 9.00  | 10.00 |       |       |       |
| PGA405/2/100 | 100                  | 17.09      | 40x5               | S         | 148.00 | 83.00  | 53.40  | 31.60 | 18.40 | 12.45 | 5.30  | 3.10  | 1.79  |       |       |       |
| PGA405/2/50  | 50                   | 18.49      |                    | D         | 1.71   | 3.04   | 4.75   | 5.84  | 6.31  | 7.00  | 8.00  | 9.30  | 10.00 |       |       |       |
| PGA305/2/100 | 100                  | 13.17      | 30x5               | S         | 68.60  | 38.60  | 24.78  | 14.90 | 8.65  | 5.80  | 2.88  | 1.40  |       |       |       |       |
| PGA305/2/50  | 50                   | 14.57      |                    | D         | 1.88   | 3.35   | 5.24   | 6.55  | 7.00  | 8.00  | 9.80  | 10.00 |       |       |       |       |
| PGA255/2/100 | 100                  | 11.21      | 25x5               | S         | 44.02  | 23.26  | 13.81  | 7.90  | 4.96  | 3.68  | 1.68  |       |       |       |       |       |
| PGA255/2/50  | 50                   | 12.61      |                    | D         | 3.47   | 5.05   | 6.00   | 7.00  | 8.00  | 9.00  | 10.00 |       |       |       |       |       |



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