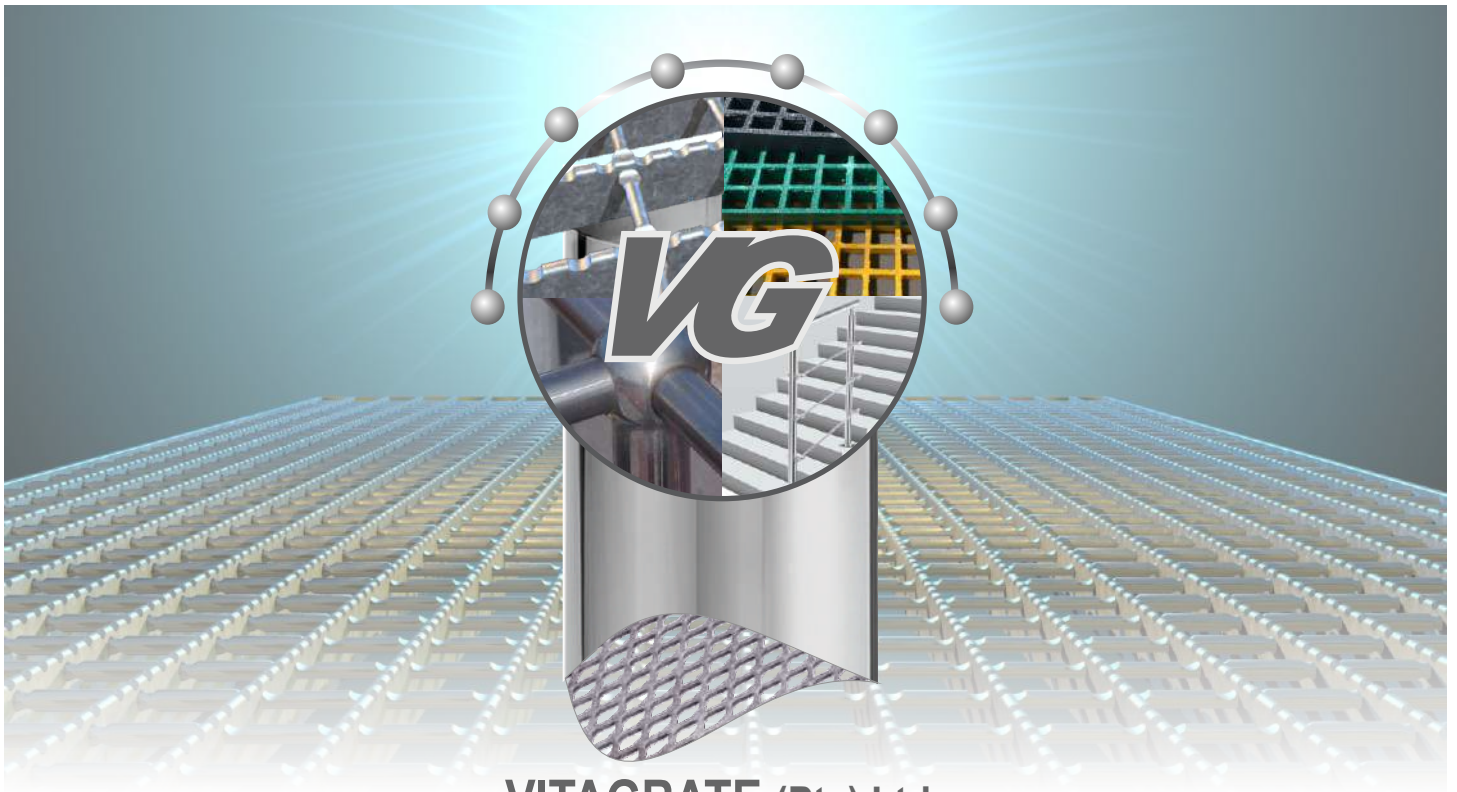
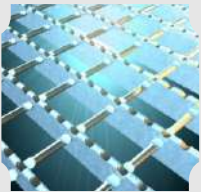


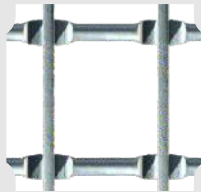


**VITAGRATE (Pty) Ltd.**

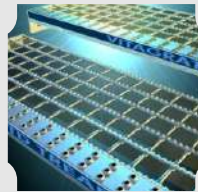
# **PRODUCT AND TECHNICAL BROCHURE**



**STEEL  
GRATINGS**



**FRP  
GRATING**



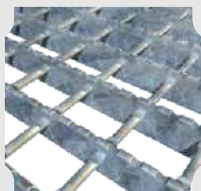
**STAIR  
TREADS**



**TRENCH  
COVERS**



**LOAD  
TABLES**



**KICK  
PLATES**



**FIXINGS**



**EXPANDED  
METALS**



**HANDRAILING**

**Vitagrate (Pty) Ltd**

[www.vitagrate.com](http://www.vitagrate.com)

**+27(0)10 035 4921**

***for Superior Service***

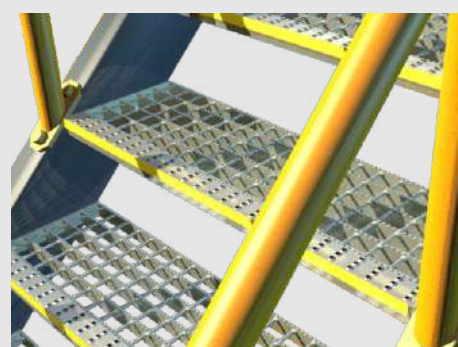
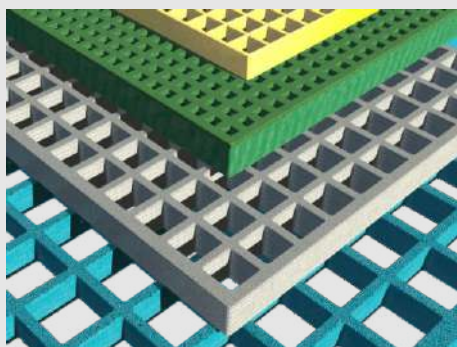
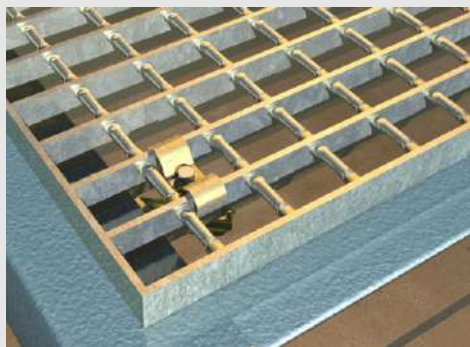
# ***Index***



*Click on a Page number to go to that Page*

|                |                                                                            |
|----------------|----------------------------------------------------------------------------|
| <b>PAGE 1</b>  | <b>Introduction</b><br>About this Brochure and about the Company           |
| <b>PAGE 2</b>  | <b>Vitagrate Walkway Grating Introduction</b>                              |
| <b>PAGE 3</b>  | <b>Grating Terminology</b>                                                 |
| <b>PAGE 4</b>  | <b>Vitagrate Walkway Gratings Load Tables</b><br>Technical Specifications  |
| <b>PAGE 5</b>  | <b>Vitagrate Walkway Gratings Load Tables &amp; Trench Cover</b>           |
| <b>PAGE 7</b>  | <b>Vitagrate Heavy Duty Gratings Load Tables</b><br>Heavy Duty             |
| <b>PAGE 9</b>  | <b>Vitagrate Extra Heavy Duty Gratings Load Tables</b><br>Extra Heavy Duty |
| <b>PAGE 11</b> | <b>Vitagrate Stairtreads Introduction</b>                                  |
| <b>PAGE 12</b> | <b>Vitagrate Stairtreads</b><br>Specifications                             |
| <b>PAGE 14</b> | <b>Vitagrate Trench Covers Introduction</b>                                |
| <b>PAGE 15</b> | <b>Vitagrate Trench Covers</b><br>Specifications and Range                 |
| <b>PAGE 16</b> | <b>Vitagrate FRP (Fibreglass) Gratings Introduction</b>                    |
| <b>PAGE 17</b> | <b>Vitagrate FRP (Fibreglass) Gratings</b><br>Specifications and Range     |
| <b>PAGE 18</b> | <b>Vitagrate FRP Grating Resin Types and Fixings</b>                       |
| <b>PAGE 19</b> | <b>Chemical Resistance Table</b>                                           |
| <b>PAGE 20</b> | <b>Vi-Ex Expanded Metals Introduction</b>                                  |
| <b>PAGE 21</b> | <b>Vi-Ex Expanded Metals</b><br>Specifications and Range                   |
| <b>PAGE 22</b> | <b>Vitagrate Handrailing Introduction</b>                                  |
| <b>PAGE 23</b> | <b>Vitagrate Handrailing Bends and Accessories</b>                         |
| <b>PAGE 24</b> | <b>Vitagrate Handrailing Stanchions</b>                                    |
| <b>PAGE 25</b> | <b>Vitagrate Stanchions Load Tables</b>                                    |
| <b>PAGE 26</b> | <b>Vitagrate Gratings Fixings</b>                                          |
| <b>PAGE 27</b> | <b>Contact Details</b>                                                     |

# Introduction



## About this Brochure

This brochure is designed to assist you with familiarising you with our range of products, and providing all the Technical Specifications and data you may require to help with ordering the correct products to best suit your design.

Please don't hesitate to contact us.

Vitagrate has combined 80 years wealth of experience in the Grating and Handrailing Industry, and will be able to give you sound advice and provide solutions to any challenges you may experience.

This Brochure mainly covers our standard readily available stock, but we will accommodate your custom designs in every way we possibly can.

Vitagrate is a level 4 BEE Company

Vitagrate was established to indulge core business values, focusing on an intimate, partnership driven, customer service, founded on a deep understanding of customer's needs.

These core values and vast experience benefits have established a highly efficient, cost effective, customer focused, high quality, manufacturing and supply company, servicing a complete range of local and International Industries.

## Industries Served

Commercial, Architectural, Civil and Construction, Food and Beverage, Steel, Retail, Mining, Materials Handling, Power Generation, Processing Plants, Cement, Shipping, Precious Metals, Petro Chemical and more...



Founder and CEO  
Dodds Pringle





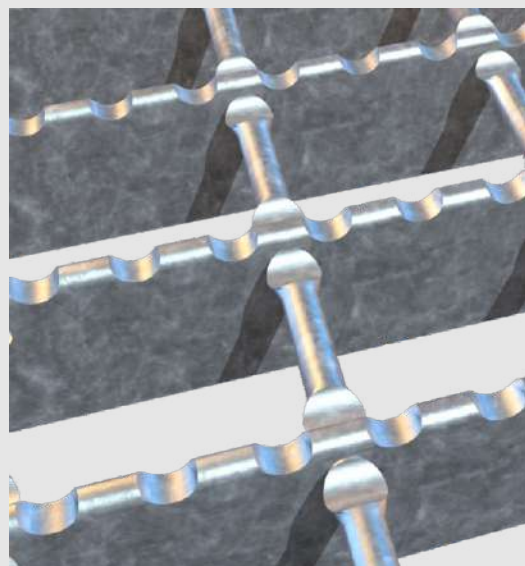
## ***Vitagate Walkway Gratings***



Vitagate Walkway Grating is a pressure forged mild steel construction process providing a solid permanent grating panel that complies with world safety standards.

The Tables on pages 4 to 9 provide Specifications for our standard range, but we also provide tailored products to cater for your cut to size requirements.

Mild Steel Standard panels are available in uncoated and Galvanised in unbanded sizes of 2400mm x 1200mm

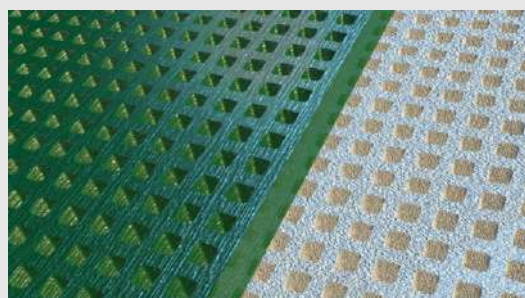


Fibreglass (GRP or FRP) Standard panels are available in various finishes, colours and sizes. (see pages 16 to 18)

The most popular colours are light grey and green, available in UV resistant smooth or non-slip grit ester or polyester finishes.

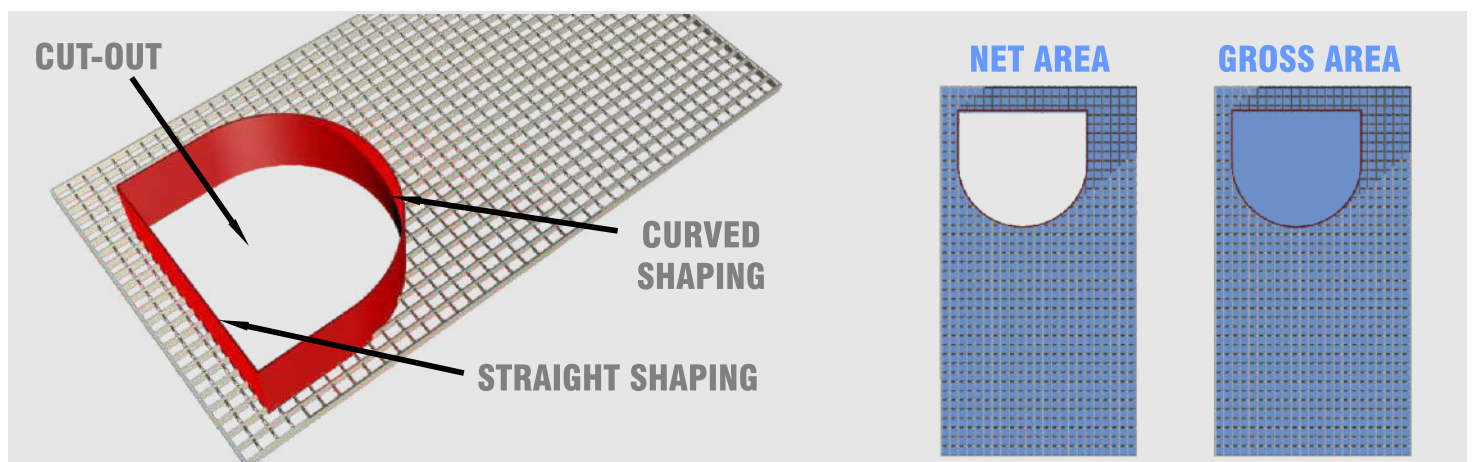
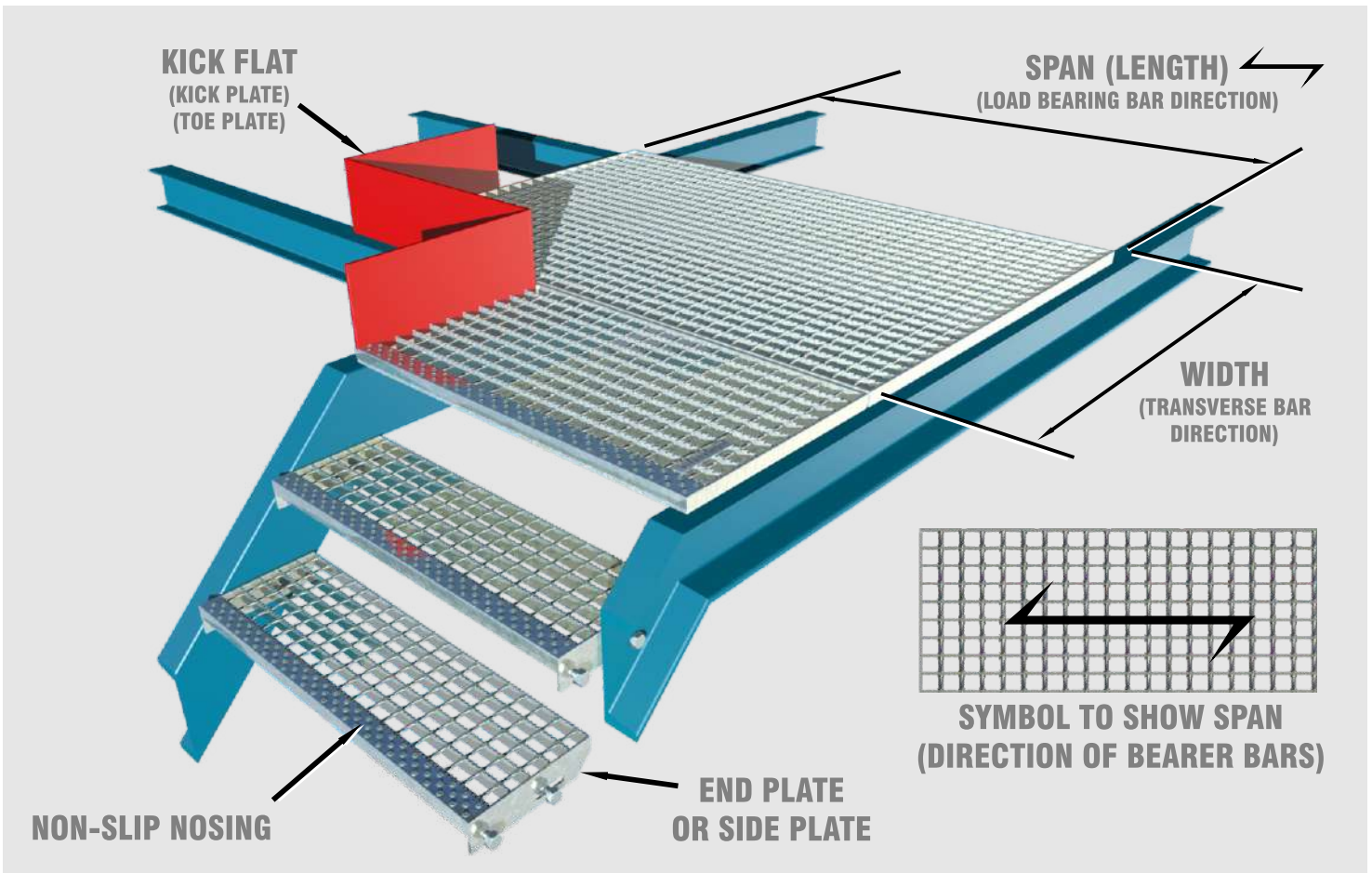
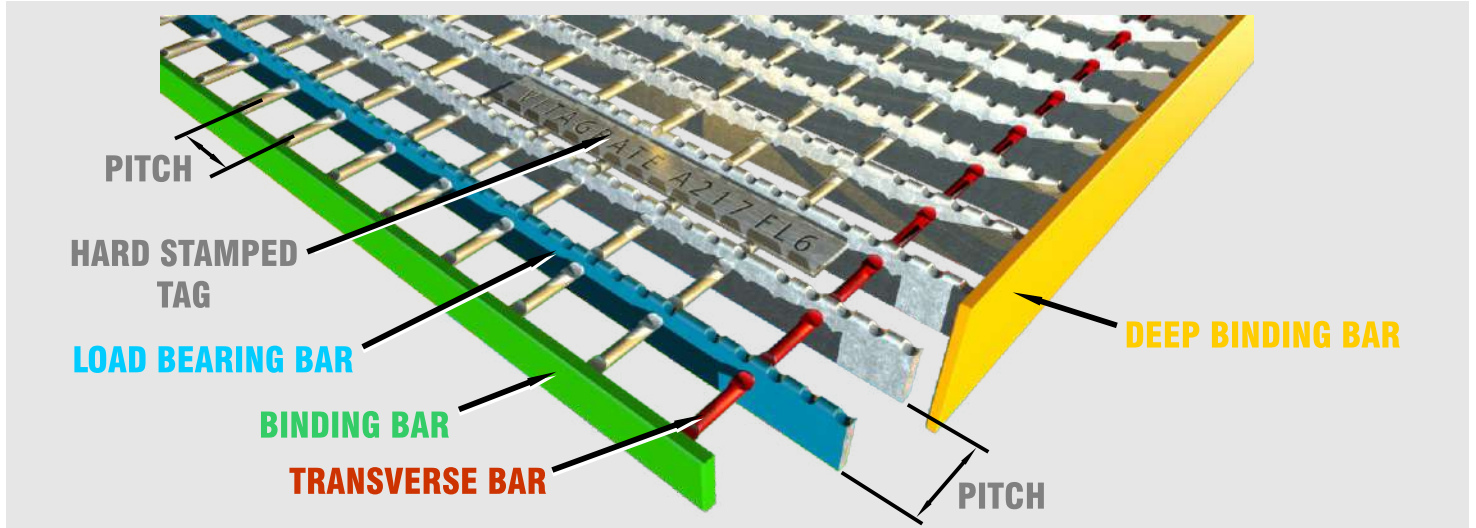
Fire Retardent resins are also available.

Most popular sizes are 2440mm x 1220mm and 3660mm x 1220mm.





# Grating Terminology



# Vitagate Walkway Gratings



## Vitagate Load Tables Technical

Technical qualifications of Vitagate branded grating products

1. Bearer bars have been analysed in accordance with SANS 10162-1
2. **Loads are based on unpainted and serrated surface (note serrations reduce the load as indicated in the table below \*\*)**
3. Grade of steel if otherwise indicated must be accompanied by test certificate giving the chemical and mechanical properties

$f_y$  is the Yield stress in Mpa

| Material Grade | $f_y$ |
|----------------|-------|
|                | Mpa   |
| Commercial     | 200   |
| Grade 300w     | 300*  |
| Grade 355      | 355*  |

\* Before using these values of  $f_y$ , the grade of steel must be verified with test certificates from the material supplier. The test certificates must give the appropriate chemical and mechanical properties to classify the base material being used.

4. Maximum depth of the serration is based on 2.5mm
5. The rolling tolerances have not been taken into account
6. **Under tolerance material can have an dangerous impact on any loadings.**
7. Class of the B/Bar as per SANS 10162-1 - Table 4

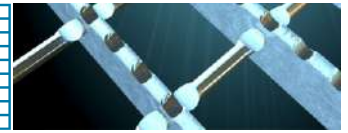
|            | Class 1          | Class 2          | Class 3          |
|------------|------------------|------------------|------------------|
| $D/t \leq$ | $145/\sqrt{f_y}$ | $170/\sqrt{f_y}$ | $340/\sqrt{f_y}$ |
| Commercial | 10.25            | 12.02            | 24               |
| Grade 300w | 8.37             | 9.81             | 19.6             |
| Grade 355  | 7.7              | 9.02             | 18.05            |

| Serrated |     |       |                                       |
|----------|-----|-------|---------------------------------------|
| D        | t   | D/t   | D/t                                   |
| 20       | 3   | 6.67  | 5.83                                  |
| 20       | 4.5 | 4.44  | 3.89                                  |
| 25       | 3   | 8.33  | 7.5                                   |
| 25       | 4.5 | 5.56  | 5.00                                  |
| 30       | 3   | 10    | 9.17                                  |
| 30       | 4.5 | 6.67  | 6.11                                  |
| 40       | 3   | 13.33 | 12.50                                 |
| 40       | 4.5 | 8.89  | 8.33                                  |
| 50       | 3   | 16.67 | 15.83                                 |
| 50       | 4.5 | 11.11 | 10.56                                 |
| 50       | 6   | 8.33  |                                       |
| 60       | 6   | 10.00 | Class 3                               |
| 70       | 6   | 11.67 | Class 3                               |
| 80       | 6   | 13.33 | Class 3                               |
| 100      | 6   | 16.67 | Class 3                               |
| 110      | 8   | 13.75 | Class 3                               |
| 130      | 8   | 16.25 | Class 3                               |
| 150      | 8   | 18.75 | Class 4 - use D=145mm and use Class 3 |
| 180      | 12  | 15.00 | Class 3                               |
| 200      | 12  | 16.67 | Class 3                               |

Where additional information is required on performance please contact us directly.

**NOTE :** These tables are limited to the bearer configurations as depicted in the Vitagate Brochure as standard and are copyright. For the assessment of loads and deflections on smaller and larger bearer bars, a qualified structural engineer must be consulted. These tables and performances should not be used for similar products as these have been based on Vitagate branded products only. E or OE

# Vitagrate Walkway Gratings



## Vitagrate Load Tables

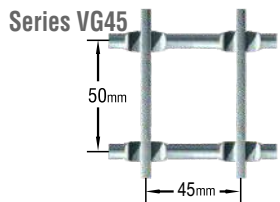
### Vitagrate Walkway and Trench cover load tables

Note: Galvanising increases the theoretical mass shown by 9%

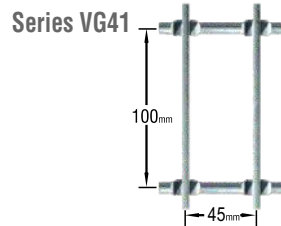
\*\* Material is 300 grade

Walkway UDL and CLL loads shown are based on grating panel spanning continuously over two beams UON.

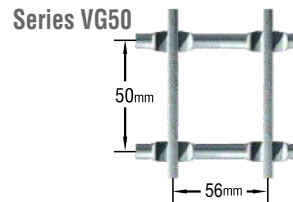
Loadings shown are based on Serrated (S) and not Plain (P) gratings.



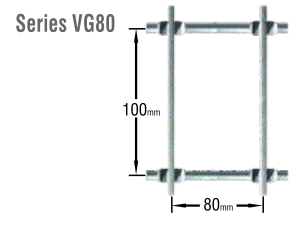
Load Factor = 1.08  
B/bars p/m = 26



Load Factor = 1.08  
B/bars p/m = 26



Load Factor = 0.77  
B/bars p/m = 12



Load Factor = 0.54  
B/bars p/m = 26

|                     |             | Estimated<br>Banded<br>mass/m² | Span                     | 200 | 300 | 400 | 500                    | 750 | 1000        | 1250        | 1500        | 1500        | 2000                                 | 2250        | 2500        | 3000        |             |             |
|---------------------|-------------|--------------------------------|--------------------------|-----|-----|-----|------------------------|-----|-------------|-------------|-------------|-------------|--------------------------------------|-------------|-------------|-------------|-------------|-------------|
| Load bar            | Series      |                                | Limit <i>d</i>           |     |     |     |                        | 2.5 | 3.8         | 5.0         | 6.3         | 7.5         | 9.0                                  | 10.0        | 11.3        | 12.5        | 15.0        |             |
| Trench cover tables |             |                                |                          |     |     |     | Walkway load tables kN |     |             |             |             |             | 8mm Dia Transversals Pressure forged |             |             |             |             |             |
| 25 x 3              | VG45S       | 23.9                           | UDL<br><i>d</i>          |     |     |     |                        |     | 55.5<br>2.5 | 16.5<br>3.8 | 7.0<br>5.0  | 3.6<br>6.3  | 2.1<br>7.5                           | 1.2<br>9.0  | 0.9<br>10.0 | 0.6<br>11.3 | 0.4<br>12.5 | 0.3<br>15.0 |
|                     | or<br>VG41S | 20.2                           | CLL<br><i>d</i>          |     |     |     |                        |     | 13.9<br>2.0 | 7.8<br>3.8  | 4.4<br>5.0  | 2.8<br>6.3  | 1.9<br>7.5                           | 1.9<br>9.0  | 1.1<br>10.0 | 0.9<br>11.3 | 0.7<br>12.5 | 0.5<br>15.0 |
|                     |             |                                | Strength UDL<br><i>d</i> |     |     |     |                        |     | 55.5<br>2.5 | 24.6<br>5.6 | 13.7<br>9.9 | 8.7<br>15.3 | 6.0<br>21.9                          | 4.1<br>31.1 | 3.3<br>38.1 | 2.6<br>47.6 | 2.1<br>57.9 | 1.4<br>80.6 |
|                     |             |                                |                          |     |     |     |                        |     |             |             |             |             |                                      |             |             |             |             |             |

| Load kN/m <sup>2</sup>                           | 1.5  | 2.0  | 2.5  | 3.0  | 4.0  | 5.0  | 7.5  | 10   |
|--------------------------------------------------|------|------|------|------|------|------|------|------|
| Safe span mm (Strength) <i>d</i>                 | 2897 | 2539 | 2288 | 2099 | 1829 | 1642 | 1348 | 1170 |
| Safe span mm limited <i>d</i> Allowable <i>d</i> | 75.7 | 59.6 | 49.1 | 41.7 | 32.1 | 26.1 | 17.7 | 13.4 |
|                                                  | 1669 | 1517 | 1408 | 1325 | 1204 | 1117 | 976  | 887  |
|                                                  | 8.3  | 7.6  | 7.0  | 6.6  | 6.0  | 5.6  | 4.9  | 4.4  |

|          |                      |                          |                 |             |             |             |             |             |              |             |             |             |             |             |             |             |
|----------|----------------------|--------------------------|-----------------|-------------|-------------|-------------|-------------|-------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 25 x 4.5 | VG45S<br>or<br>VG41S | 32.1                     | UDL<br><i>d</i> |             |             |             | 83.2<br>2.5 | 24.8<br>3.8 | 10.5<br>5.0  | 5.4<br>6.3  | 3.1<br>7.5  | 1.8<br>9.0  | 1.3<br>10.0 | 0.9<br>11.3 | 0.7<br>12.5 | 0.4<br>15.0 |
|          |                      |                          | CLL<br><i>d</i> | 54.7<br>0.3 | 36.4<br>0.7 | 27.3<br>1.3 | 20.8<br>2.0 | 11.6<br>3.8 | 6.5<br>5.0   | 4.2<br>6.3  | 2.9<br>7.5  | 2.0<br>9.0  | 1.6<br>10.0 | 1.3<br>11.3 | 1.0<br>12.5 | 0.7<br>15.0 |
|          |                      | Strength UDL<br><i>d</i> |                 |             |             | 83.2<br>2.5 | 36.9<br>5.6 | 20.7<br>9.9 | 13.1<br>15.3 | 9.1<br>21.9 | 6.2<br>31.3 | 5.0<br>38.3 | 3.9<br>47.9 | 3.1<br>58.4 | 2.1<br>81.7 |             |
|          |                      | 28.2                     |                 |             |             |             |             |             |              |             |             |             |             |             |             |             |
|          |                      |                          |                 |             |             |             |             |             |              |             |             |             |             |             |             |             |
|          |                      |                          |                 |             |             |             |             |             |              |             |             |             |             |             |             |             |

| Load kN/m <sup>2</sup>                           | 1.5   | 2.0  | 2.5  | 3.0  | 4.0  | 5.0  | 7.5  | 10   |
|--------------------------------------------------|-------|------|------|------|------|------|------|------|
| Safe span mm (Strength) <i>d</i>                 | 3495  | 3074 | 2776 | 2550 | 2227 | 2001 | 1645 | 1430 |
| Safe span mm limited <i>d</i> Allowable <i>d</i> | 106.9 | 85.3 | 70.9 | 60.6 | 47.0 | 38.3 | 26.2 | 20.0 |
|                                                  | 1911  | 1736 | 1612 | 1517 | 1378 | 1279 | 1117 | 1015 |
|                                                  | 9.6   | 8.7  | 8.1  | 7.6  | 6.9  | 6.4  | 5.6  | 5.1  |

|        |                      |      |                          |      |      |      |      |      |      |      |      |      |      |     |
|--------|----------------------|------|--------------------------|------|------|------|------|------|------|------|------|------|------|-----|
| 30 x 3 | VG45S<br>or<br>VG41S | 32.1 | UDL<br><i>d</i>          |      | 71.1 | 24.6 | 12.1 | 6.2  | 3.6  | 2.1  | 1.5  | 1.1  | 0.8  |     |
|        |                      |      |                          | 1.84 | 3.8  | 5.0  | 6.3  | 7.5  | 9.0  | 10.0 | 11.3 | 12.5 | 15.0 |     |
|        |                      | 28.2 | CLL<br><i>d</i>          |      | 17.8 | 11.8 | 7.5  | 4.8  | 3.3  | 2.3  | 1.9  | 1.5  | 1.2  | 0.8 |
|        |                      |      |                          | 1.5  | 3.3  | 5.0  | 6.25 | 7.5  | 9.0  | 10.0 | 11.3 | 12.5 | 15.0 |     |
|        |                      |      | Strength UDL<br><i>d</i> |      | 71.1 | 31.5 | 17.6 | 11.2 | 7.7  | 5.3  | 4.3  | 3.3  | 2.7  |     |
|        |                      |      |                          |      | 1.84 | 4.1  | 7.3  | 11.4 | 16.2 | 23.2 | 28.4 | 35.5 | 43.3 |     |
|        |                      |      |                          |      |      |      |      |      |      |      |      |      | 1.8  |     |
|        |                      |      |                          |      |      |      |      |      |      |      |      |      | 60.5 |     |

| Load kN/m <sup>2</sup>                           | 1.5    | 2.0  | 2.5  | 3.0  | 4.0  | 5.0  | 7.5  | 10   |
|--------------------------------------------------|--------|------|------|------|------|------|------|------|
| Safe span mm (Strength) <i>d</i>                 | 3258.1 | 2860 | 2579 | 2367 | 2065 | 1855 | 1523 | 1323 |
| Safe span mm limited <i>d</i> Allowable <i>d</i> | 70.1   | 55.5 | 45.9 | 39.1 | 30.1 | 24.5 | 16.7 | 12.7 |
|                                                  | 2003   | 1820 | 1689 | 1590 | 1444 | 1341 | 1171 | 1064 |
|                                                  | 10.0   | 9.1  | 8.4  | 7.9  | 7.2  | 6.7  | 5.9  | 5.3  |



|          |                      | Estimated<br>Banded<br>mass/m <sup>2</sup> | Span                                                | 200           | 300          | 400             | 500                    | 750          | 1000         | 1250         | 1500                                 | 1500         | 2000         | 2250         | 2500        | 3000        |
|----------|----------------------|--------------------------------------------|-----------------------------------------------------|---------------|--------------|-----------------|------------------------|--------------|--------------|--------------|--------------------------------------|--------------|--------------|--------------|-------------|-------------|
| Load bar | Series               |                                            | Limit <i>d</i>                                      |               |              |                 | 2.5                    | 3.8          | 5.0          | 6.3          | 7.5                                  | 9.0          | 10.0         | 11.3         | 12.5        | 15.0        |
|          |                      |                                            | Trench cover tables                                 |               |              |                 | Walkway load tables kN |              |              |              | 8mm Dia Transversals Pressure forged |              |              |              |             |             |
| 30 x 4.5 | VG45S<br>or<br>VG41S | 23.9                                       | UDL<br><i>d</i>                                     |               |              |                 | 106.60<br>1.84         | 42.9<br>3.8  | 18.1<br>5.0  | 9.3<br>7.2   | 5.4<br>7.5                           | 3.1<br>9.0   | 2.3<br>10.0  | 1.6<br>11.3  | 1.2<br>12.5 | 0.7<br>15.0 |
|          |                      |                                            | CLL<br><i>d</i>                                     | 81.7<br>0.3   | 54.4<br>0.6  | 40.8<br>1.1     | 26.7<br>1.5            | 17.7<br>3.3  | 11.3<br>5.0  | 7.2<br>6.25  | 5.0<br>7.5                           | 3.5<br>9.0   | 2.8<br>10.0  | 2.2<br>11.3  | 1.8<br>12.5 | 1.3<br>15.0 |
|          |                      | 20.2                                       | Strength UDL<br><i>d</i>                            |               |              |                 | 106.60<br>1.84         | 47.2<br>4.1  | 26.5<br>7.3  | 16.9<br>11.4 | 11.6<br>16.3                         | 8.0<br>23.2  | 6.4<br>28.5  | 5.0<br>35.7  | 4.0<br>43.6 | 2.7<br>61.1 |
|          |                      |                                            | Load kN/m <sup>2</sup>                              |               |              |                 | 1.5                    | 2.0          | 2.5          | 3.0          | 4.0                                  | 5.0          | 7.5          | 10           |             |             |
|          |                      |                                            | Safe span mm (Strength)<br><i>d</i>                 |               |              | 3920.3<br>98.0  | 3455<br>78.8           | 3123<br>65.8 | 2872<br>56.4 | 2511<br>43.9 | 2258<br>35.9                         | 1858<br>24.7 | 1615<br>18.8 |              |             |             |
|          |                      |                                            | Safe span mm limited <i>d</i><br>Allowable <i>d</i> |               |              | 2293<br>11.5    | 2083<br>10.4           | 1934<br>9.7  | 1820<br>9.1  | 1654<br>8.3  | 1535<br>7.7                          | 1341<br>6.7  | 1218<br>6.1  |              |             |             |
| 40 x 3   | VG45S<br>or<br>VG41S | 33.1                                       | UDL<br><i>d</i>                                     |               |              |                 | 88.2<br>0.96           | 39.1<br>2.2  | 21.9<br>3.8  | 14.0<br>6.0  | 8.5<br>7.5                           | 4.9<br>9.0   | 3.6<br>10.0  | 2.5<br>11.3  | 1.8<br>12.5 | 1.1<br>15.0 |
|          |                      |                                            | CLL<br><i>d</i>                                     | 22.0<br>0.8   | 14.7<br>1.7  | 11.0<br>3.1     | 8.7<br>4.78            | 7.2<br>6.8   | 5.5<br>9.0   | 4.5<br>10.0  | 3.5<br>11.3                          | 2.9<br>12.5  | 2.0<br>15.0  |              |             |             |
|          |                      | 29.9                                       | Strength UDL<br><i>d</i>                            | 88.2<br>0.96  | 39.1<br>2.2  | 21.9<br>3.8     | 14.0<br>6.0            | 9.7<br>8.6   | 6.7<br>12.2  | 5.4<br>15.0  | 4.2<br>18.9                          | 3.4<br>23.1  | 2.3<br>32.7  |              |             |             |
|          |                      |                                            | Load kN/m <sup>2</sup>                              |               |              |                 | 1.5                    | 2.0          | 2.5          | 3.0          | 4.0                                  | 5.0          | 7.5          | 10           |             |             |
|          |                      |                                            | Safe span mm (Strength)<br><i>d</i>                 |               |              | 3584.80<br>43.3 | 3155<br>34.7           | 2850<br>28.9 | 2619<br>24.7 | 2288<br>19.2 | 2057<br>15.7                         | 1691<br>10.7 | 1470<br>8.2  |              |             |             |
|          |                      |                                            | Safe span mm limited <i>d</i><br>Allowable <i>d</i> |               |              | 2671<br>13.4    | 2427<br>12.1           | 2253<br>11.3 | 2120<br>10.6 | 1926<br>9.6  | 1788<br>8.9                          | 1562<br>7.8  | 1419<br>7.1  |              |             |             |
| 40 x 4.5 | VG45S<br>or<br>VG41S | 47.2                                       | UDL<br><i>d</i>                                     |               |              |                 | 198.4<br>1.45          | 88<br>3.2    | 42.9<br>5.0  | 21.9<br>6.3  | 12.7<br>7.5                          | 7.3<br>9.0   | 5.4<br>10.0  | 3.8<br>11.3  | 2.7<br>12.5 | 1.6<br>15.0 |
|          |                      |                                            | CLL<br><i>d</i>                                     | 151.9<br>0.2  | 101.2<br>0.5 | 75.9<br>0.9     | 49.6<br>1.2            | 33.0<br>2.6  | 24.7<br>4.6  | 17.1<br>6.25 | 11.9<br>7.5                          | 8.3<br>9.0   | 6.7<br>10.0  | 5.3<br>11.3  | 4.3<br>12.5 | 3.0<br>15.0 |
|          |                      | 43.1                                       | Strength UDL<br><i>d</i>                            | 198.4<br>1.45 | 88.0<br>3.2  | 49.4<br>5.8     | 31.5<br>9.0            | 21.8<br>12.9 | 15.0<br>18.4 | 12.1<br>22.6 | 9.5<br>28.4                          | 7.6<br>34.9  | 5.2<br>49.3  |              |             |             |
|          |                      |                                            | Load kN/m <sup>2</sup>                              |               |              |                 | 1.5                    | 2.0          | 2.5          | 3.0          | 4.0                                  | 5.0          | 7.5          | 10           |             |             |
|          |                      |                                            | Safe span mm (Strength)<br><i>d</i>                 |               |              | 5255.3<br>133.5 | 4649<br>108.90         | 4213<br>91.9 | 3881<br>79.3 | 3399<br>62.3 | 3062<br>51.3                         | 2524<br>35.5 | 2196<br>27.1 |              |             |             |
|          |                      |                                            | Safe span mm limited <i>d</i><br>Allowable <i>d</i> |               |              | 3057<br>15.3    | 2778<br>13.9           | 2579<br>12.9 | 2427<br>12.1 | 2205<br>11.0 | 2047<br>10.2                         | 1788<br>8.9  | 1624<br>8.1  |              |             |             |
| 50 x 3   | VG45S<br>or<br>VG41S | 39.3                                       | UDL<br><i>d</i>                                     |               |              |                 | 141.5<br>0.789         | 62.8<br>1.8  | 35.2<br>3.2  | 22.5<br>4.9  | 15.6<br>7.1                          | 9.6<br>9.0   | 7.0<br>10.0  | 4.9<br>11.3  | 3.6<br>12.5 | 2.1<br>15.0 |
|          |                      |                                            | CLL<br><i>d</i>                                     | 35.4<br>0.6   | 23.5<br>1.4  | 17.6<br>2.5     | 14.1<br>3.94           | 11.7<br>5.6  | 9.7<br>8.1   | 8.7<br>10.0  | 6.9<br>11.3                          | 5.6<br>12.5  | 3.9<br>15.0  |              |             |             |
|          |                      | 39.1                                       | Strength UDL<br><i>d</i>                            | 141.5<br>0.79 | 62.8<br>1.8  | 35.2<br>3.2     | 22.5<br>4.9            | 15.6<br>7.1  | 10.8<br>10.1 | 8.78<br>12.4 | 6.8<br>15.7                          | 5.5<br>19.2  | 3.8<br>27.3  |              |             |             |
|          |                      |                                            | Load kN/m <sup>2</sup>                              |               |              |                 | 1.5                    | 2.0          | 2.5          | 3.0          | 4.0                                  | 5.0          | 7.5          | 10           |             |             |
|          |                      |                                            | Safe span mm (Strength)<br><i>d</i>                 |               |              | 4488.4<br>54.5  | 3960<br>44.1           | 3583<br>36.9 | 3297<br>31.8 | 2884<br>24.8 | 2595<br>20.3                         | 2137<br>14.0 | 1858<br>10.7 |              |             |             |
|          |                      |                                            | Safe span mm limited <i>d</i><br>Allowable <i>d</i> |               |              | 3338<br>16.7    | 3033<br>15.2           | 2816<br>14.1 | 2650<br>13.2 | 2407<br>12.0 | 2235<br>11.2                         | 1952<br>9.8  | 1774<br>8.9  |              |             |             |
| 50 x 4.5 | VG45S<br>or<br>VG41S | 51.7                                       | UDL<br><i>d</i>                                     |               |              |                 | 212.3<br>0.79          | 94.2<br>1.8  | 52.9<br>3.2  | 33.8<br>4.9  | 23.4<br>7.1                          | 14.4<br>9.0  | 10.5<br>10.0 | 7.3<br>11.3  | 5.4<br>12.5 | 3.1<br>15.0 |
|          |                      |                                            | CLL<br><i>d</i>                                     | 162.5<br>0.1  | 108.3<br>0.3 | 81.2<br>0.5     | 53.1<br>0.6            | 35.3<br>1.4  | 26.4<br>2.5  | 21.1<br>3.94 | 17.5<br>5.7                          | 14.5<br>8.1  | 13.0<br>10.0 | 10.3<br>11.3 | 8.4<br>12.5 | 5.8<br>15.0 |
|          |                      | 53                                         | Strength UDL<br><i>d</i>                            | 212.3<br>0.79 | 94.2<br>1.8  | 52.9<br>3.2     | 33.8<br>4.9            | 23.4<br>7.1  | 16.2<br>10.1 | 13.0<br>12.5 | 10.3<br>15.7                         | 8.3<br>19.3  | 5.7<br>27.4  |              |             |             |
|          |                      |                                            | Load kN/m <sup>2</sup>                              |               |              |                 | 1.5                    | 2.0          | 2.5          | 3.0          | 4.0                                  | 5.0          | 7.5          | 10           |             |             |
|          |                      |                                            | Safe span mm (Strength)<br><i>d</i>                 |               |              | 5346.1<br>73.2  | 4746<br>60.6           | 4311<br>51.6 | 3977<br>44.8 | 3491<br>35.5 | 3149<br>29.3                         | 2600<br>20.5 | 2265<br>15.7 |              |             |             |
|          |                      |                                            | Safe span mm limited <i>d</i><br>Allowable <i>d</i> |               |              | 3822<br>19.1    | 3472<br>17.4           | 3223<br>16.1 | 3033<br>15.2 | 2756<br>13.8 | 2558<br>12.8                         | 2235<br>11.2 | 2031<br>10.2 |              |             |             |

Please see Technical qualifications.

E or OE

# Vitagrate Heavy Duty Gratings



## Vitagrate Load Tables

### Vitagrate Heavy Duty Loading

Note: Galvanising increases the theoretical mass shown by 9%

\*\* Material is 300 grade

Walkway UDL and CLL loads shown are based on grating panel spanning continuously over two beams UON.

|          |                      | Estimated<br>Banded<br>mass/m <sup>2</sup> | Span           | 500   | 750   | 1000   | 1250 | 1500          | 1800                         | 2000  | 2250 | 2500 | 3000 |  |                 |
|----------|----------------------|--------------------------------------------|----------------|-------|-------|--------|------|---------------|------------------------------|-------|------|------|------|--|-----------------|
| Load bar | Series               |                                            | Limit <i>d</i> | 2.5   | 3.8   | 5.0    | 6.3  | 7.5           | 9.0                          | 10.0  | 11.3 | 12.5 | 15.0 |  |                 |
|          |                      |                                            |                |       |       |        |      | Walkway       | Heavy duty load tables in kN |       |      |      |      |  |                 |
|          |                      |                                            |                |       |       |        |      | 8mm Dia T/Bar |                              |       |      |      |      |  | Pressure forged |
| 50 x 6   | VG45P<br>or<br>VG41P | 63                                         | UDL            | 424.6 | 188.4 | 105.80 | 57.2 | 33.1          | 19.1                         | 14.0  | 9.8  | 7.1  | 4.1  |  |                 |
|          |                      |                                            | <i>d</i>       | 1.19  | 2.7   | 4.7    | 6.3  | 7.5           | 9.0                          | 10.0  | 11.3 | 12.5 | 15.0 |  |                 |
|          |                      | 68.1                                       | CLL            | 106.1 | 70.7  | 52.9   | 42.2 | 31.0          | 21.5                         | 17.4  | 13.8 | 11.2 | 7.8  |  |                 |
|          |                      |                                            | <i>d</i>       | 1.0   | 2.1   | 3.8    | 5.91 | 7.5           | 9.0                          | 10.0  | 11.3 | 12.5 | 15.0 |  |                 |
|          |                      |                                            | Strength UDL   | 424.6 | 188.4 | 105.8  | 67.5 | 46.8          | 32.3                         | 216.1 | 20.5 | 16.5 | 11.3 |  |                 |
|          |                      |                                            | <i>d</i>       | 1.19  | 2.7   | 4.7    | 7.4  | 10.6          | 15.2                         | 18.7  | 23.6 | 28.9 | 41.2 |  |                 |

Safe span and deflection at given loads in kN/m<sup>2</sup>

|                                                  |  | Load kN/m <sup>2</sup> | 1.5    | 2     | 2.5   | 3     | 4     | 5    | 7.5  | 10   |
|--------------------------------------------------|--|------------------------|--------|-------|-------|-------|-------|------|------|------|
| Safe span mm (Strength) <i>d</i>                 |  |                        | 7363.6 | 6573  | 5992  | 5542  | 4881  | 4412 | 3654 | 3187 |
|                                                  |  |                        | 197.5  | 167.2 | 144.3 | 126.8 | 101.7 | 84.8 | 59.9 | 46.2 |
| Safe span mm limited <i>d</i> Allowable <i>d</i> |  |                        | 4206   | 3822  | 3548  | 3338  | 3033  | 2816 | 2460 | 2235 |
|                                                  |  |                        | 21.0   | 19.1  | 17.7  | 16.7  | 15.2  | 14.1 | 12.3 | 11.2 |

|        |          |      |                       |       |       |       |      |      |      |      |      |      |      |
|--------|----------|------|-----------------------|-------|-------|-------|------|------|------|------|------|------|------|
| 65 x 6 | VG45P    | 79.6 | UDL <i>d</i>          | 434.8 | 276.3 | 155.2 | 98.8 | 57.2 | 33.1 | 24.1 | 16.9 | 12.3 | 7.1  |
|        |          |      |                       | 1.01  | 2.3   | 4.0   | 6.3  | 7.5  | 9.0  | 10.  | 11.3 | 12.5 | 15.0 |
|        | or VG41P | 75.5 | CLL <i>d</i>          | 155.6 | 103.6 | 77.6  | 61.9 | 51.5 | 37.2 | 30.1 | 23.8 | 19.3 | 13.4 |
|        |          |      |                       | 0.8   | 1.8   | 3.2   | 5.02 | 7.2  | 9.0  | 10.0 | 11.3 | 12.5 | 15.0 |
|        |          |      | Strength UDL <i>d</i> | 622.3 | 276.3 | 155.2 | 99.1 | 68.7 | 47.5 | 38.4 | 30.2 | 24.4 | 16.8 |
|        |          |      |                       | 1.01  | 2.3   | 4.0   | 6.3  | 9.0  | 12.9 | 15.9 | 20.1 | 24.7 | 35.2 |

Safe span and deflection at given loads in kN/m<sup>2</sup>

|                                                  |  | Load kN/m <sup>2</sup> | 1.5   | 2     | 2.5   | 3     | 4     | 5     | 7.5  | 10   |
|--------------------------------------------------|--|------------------------|-------|-------|-------|-------|-------|-------|------|------|
| Safe span mm (Strength) <i>d</i>                 |  |                        | 8736  | 7829  | 7156  | 6632  | 5856  | 5301  | 4401 | 3843 |
|                                                  |  |                        | 226.5 | 194.8 | 170.0 | 150.4 | 121.9 | 102.4 | 72.9 | 56.6 |
| Safe span mm limited <i>d</i> Allowable <i>d</i> |  |                        | 5047  | 4586  | 4257  | 4006  | 3640  | 3379  | 2952 | 2682 |
|                                                  |  |                        | 25.2  | 22.9  | 21.3  | 20.0  | 18.2  | 16.9  | 14.8 | 13.4 |

|        |          |       |                       |       |       |       |      |      |      |      |      |      |      |
|--------|----------|-------|-----------------------|-------|-------|-------|------|------|------|------|------|------|------|
| 70 x 6 | VG45P    | 91.6  | UDL <i>d</i>          | 571.8 | 253.9 | 142.6 | 91.1 | 63.2 | 43.7 | 35.3 | 26.9 | 19.6 | 11.3 |
|        |          |       |                       | 0.58  | 1.3   | 2.3   | 3.6  | 5.2  | 7.5  | 9.2  | 11.3 | 12.5 | 15.0 |
|        | or VG41P | 88.20 | CLL <i>d</i>          | 142.9 | 95.2  | 71.3  | 57.0 | 47.4 | 39.4 | 35.3 | 31.3 | 28.1 | 21.3 |
|        |          |       |                       | 0.5   | 1.0   | 1.9   | 2.91 | 4.2  | 6.0  | 7.4  | 9.3  | 11.5 | 15.0 |
|        |          |       | Strength UDL <i>d</i> | 571.8 | 253.9 | 142.6 | 91.1 | 63.2 | 43.7 | 35.3 | 27.8 | 22.5 | 15.5 |
|        |          |       |                       | 0.58  | 1.3   | 2.3   | 3.6  | 5.2  | 7.5  | 9.2  | 11.6 | 14.3 | 20.5 |

Safe span and deflection at given loads in kN/m<sup>2</sup>

|                                                  |  | Load kN/m <sup>2</sup> | 1.5    | 2    | 2.5  | 3    | 4    | 5    | 7.5  | 10   |
|--------------------------------------------------|--|------------------------|--------|------|------|------|------|------|------|------|
| Safe span mm (Strength) <i>d</i>                 |  |                        | 8212.8 | 7388 | 6770 | 6285 | 5564 | 5045 | 4197 | 3670 |
|                                                  |  |                        | 111.4  | 97.3 | 85.7 | 76.4 | 62.6 | 52.9 | 38.0 | 29.6 |
| Safe span mm limited <i>d</i> Allowable <i>d</i> |  |                        | 5889   | 5350 | 4967 | 4674 | 4247 | 3942 | 3444 | 3129 |
|                                                  |  |                        | 29.4   | 26.8 | 24.8 | 23.4 | 21.2 | 19.7 | 17.2 | 15.6 |

|        |          |       |                       |       |       |       |       |      |      |      |      |      |      |
|--------|----------|-------|-----------------------|-------|-------|-------|-------|------|------|------|------|------|------|
| 80 x 6 | VG45P    | 103.5 | UDL <i>d</i>          | 753.8 | 334.8 | 188.1 | 120.2 | 83.3 | 57.7 | 46.7 | 36.8 | 29.3 | 16.9 |
|        |          |       |                       | 0.52  | 1.2   | 2.1   | 3.2   | 4.6  | 6.6  | 8.2  | 10.3 | 12.5 | 15.0 |
|        | or VG41P | 99.3  | CLL <i>d</i>          | 188.5 | 125.5 | 94.1  | 75.1  | 62.5 | 52.0 | 46.7 | 41.4 | 37.1 | 30.7 |
|        |          |       |                       | 0.4   | 0.9   | 1.6   | 2.57  | 3.7  | 5.3  | 6.5  | 8.2  | 10.2 | 14.5 |
|        |          |       | Strength UDL <i>d</i> | 753.8 | 334.8 | 188.1 | 120.2 | 83.3 | 57.7 | 46.7 | 36.8 | 29.7 | 20.5 |
|        |          |       |                       | 0.52  | 1.2   | 2.1   | 3.2   | 4.6  | 6.6  | 8.2  | 10.3 | 12.7 | 18.1 |

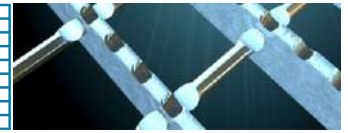
Safe span and deflection at given loads in kN/m<sup>2</sup>

|                                                  |  | Load kN/m <sup>2</sup> | 1.5    | 2     | 2.5  | 3    | 4    | 5    | 7.5  | 10   |
|--------------------------------------------------|--|------------------------|--------|-------|------|------|------|------|------|------|
| Safe span mm (Strength) <i>d</i>                 |  |                        | 9255.3 | 8355  | 7675 | 7138 | 6333 | 5751 | 4795 | 4198 |
|                                                  |  |                        | 120.4  | 106.6 | 94.9 | 85.1 | 70.4 | 59.8 | 43.4 | 34.0 |
| Safe span mm limited <i>d</i> Allowable <i>d</i> |  |                        | 6730   | 6115  | 5676 | 5342 | 4853 | 4505 | 3936 | 3576 |
|                                                  |  |                        | 33.6   | 30.6  | 28.4 | 26.7 | 24.3 | 22.5 | 19.7 | 17.9 |

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

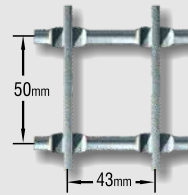


# Vitagrate Extra Heavy Duty Gratings

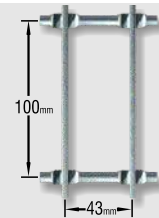


## Series VG

Series  
VG4350P



Series  
VG435100P



### Vitagrate Extra Heavy Duty Loads

Note: Galvanising increases the theoretical mass shown by 9%

\*\* Material is 350 grade

| Load bar                                                           | Series | Estimated Banded mass/m <sup>2</sup> | Span Limit <i>d</i> | 500     | 750     | 1000    | 1250  | 1500  | 1800  | 2000  | 2250  | 2500  | 3000  |
|--------------------------------------------------------------------|--------|--------------------------------------|---------------------|---------|---------|---------|-------|-------|-------|-------|-------|-------|-------|
| Heavy duty load tables in kN 10mm Dia Transversals Securely welded |        |                                      |                     |         |         |         |       |       |       |       |       |       |       |
| **110 x 8 VG50100P                                                 | 160    | 160                                  | UDL                 | 4,657.8 | 2,069.2 | 1,163.2 | 743.8 | 516.0 | 357.8 | 289.5 | 228.4 | 184.7 | 121.2 |
|                                                                    |        |                                      | <i>d</i>            | 0.67    | 1.5     | 2.7     | 4.2   | 6.0   | 8.6   | 10.0  | 11.3  | 12.5  | 15.0  |
|                                                                    |        |                                      | CLL                 | 485.2   | 323.3   | 242.3   | 193.7 | 161.3 | 134.2 | 120.6 | 107.1 | 96.2  | 79.8  |
|                                                                    |        |                                      | <i>d</i>            | 0.5     | 1.2     | 2.1     | 3.33  | 4.8   | 6.9   | 8.5   | 10.7  | 12.5  | 15.0  |
|                                                                    |        |                                      | Strength UDL        | 1,940.7 | 862.2   | 484.6   | 309.9 | 215.0 | 149.1 | 120.6 | 95.2  | 76.9  | 53.2  |
|                                                                    |        |                                      | <i>d</i>            | 0.44    | 1.0     | 1.8     | 2.8   | 4.0   | 5.7   | 7.1   | 8.9   | 11.0  | 15.8  |

| Load kN/m <sup>2</sup>           | 1.5      | 2      | 2.5    | 3      | 4     | 5     | 7.5   | 10    |
|----------------------------------|----------|--------|--------|--------|-------|-------|-------|-------|
| Safe span mm (Strength) <i>d</i> | 13,734.2 | 12,567 | 11,655 | 10,916 | 9,781 | 8,940 | 7,524 | 6,621 |
| Safe span mm limited <i>d</i>    | 195.8    | 183.0  | 169.2  | 156.3  | 134.3 | 117.2 | 88.2  | 70.5  |
| Allowable <i>d</i>               | 48.4     | 44.0   | 40.8   | 38.4   | 34.9  | 32.4  | 28.3  | 25.7  |

|                    |     |     |              |         |         |         |         |       |       |       |       |
|--------------------|-----|-----|--------------|---------|---------|---------|---------|-------|-------|-------|-------|
| **130 x 8 VG50100P | 171 | 171 | UDL          | 6,812.1 | 3,026.5 | 1,701.5 | 1,088.2 | 755.1 | 523.8 | 423.9 | 334.5 |
|                    |     |     | <i>d</i>     | 0.59    | 1.3     | 2.4     | 3.7     | 5.3   | 7.6   | 9.4   | 11.3  |
|                    |     |     | CLL          | 709.6   | 472.9   | 354.5   | 283.4   | 236.0 | 196.4 | 176.6 | 156.8 |
|                    |     |     | <i>d</i>     | 0.5     | 1.1     | 1.9     | 2.95    | 4.2   | 6.1   | 7.5   | 9.5   |
|                    |     |     | Strength UDL | 2,838.4 | 1,261.0 | 709.0   | 453.4   | 314.6 | 218.2 | 176.6 | 139.4 |
|                    |     |     | <i>d</i>     | 0.39    | 0.9     | 1.6     | 2.5     | 3.5   | 5.1   | 6.3   | 7.9   |

| Load kN/m <sup>2</sup>           | 1.5      | 2.0    | 2.5    | 3.0    | 4.0    | 5.0    | 7.5   | 10    |
|----------------------------------|----------|--------|--------|--------|--------|--------|-------|-------|
| Safe span mm (Strength) <i>d</i> | 16,042.6 | 14,760 | 13,743 | 12,911 | 11,619 | 10,650 | 9,003 | 7,940 |
| Safe span mm limited <i>d</i>    | 220.8    | 211.0  | 198.2  | 185.3  | 162.0  | 143.0  | 109.5 | 88.3  |
| Allowable <i>d</i>               | 57.2     | 52.0   | 48.3   | 45.4   | 41.3   | 38.3   | 33.5  | 30.4  |

|                    |     |     |              |         |         |         |         |       |       |       |       |
|--------------------|-----|-----|--------------|---------|---------|---------|---------|-------|-------|-------|-------|
| **150 x 8 VG50100P | 215 | 215 | UDL          | 8,769.8 | 3,896.4 | 2,190.7 | 1,401.2 | 972.4 | 674.6 | 545.9 | 430.9 |
|                    |     |     | <i>d</i>     | 0.50    | 1.1     | 2.0     | 3.1     | 4.5   | 6.4   | 7.9   | 10.0  |
|                    |     |     | CLL          | 913.5   | 608.8   | 456.4   | 364.9   | 303.9 | 253.0 | 227.5 | 202.0 |
|                    |     |     | <i>d</i>     | 0.4     | 0.9     | 1.6     | 2.47    | 3.6   | 5.1   | 6.3   | 8.0   |
|                    |     |     | Strength UDL | 3,779.0 | 1,679.0 | 944.0   | 603.8   | 419.0 | 290.7 | 235.3 | 185.7 |
|                    |     |     | <i>d</i>     | 0.34    | 0.8     | 1.4     | 2.1     | 3.1   | 4.4   | 5.4   | 6.9   |

| Load kN/m <sup>2</sup>           | 1.5 | 2      | 2.5    | 3      | 4      | 5      | 7.5    | 10    |
|----------------------------------|-----|--------|--------|--------|--------|--------|--------|-------|
| Safe span mm (Strength) <i>d</i> |     | 16,292 | 15,224 | 14,341 | 12,957 | 11,909 | 10,108 | 8,936 |
| Safe span mm limited <i>d</i>    |     | 209.2  | 203.8  | 194.3  | 183.6  | 163.1  | 145.5  | 113.3 |
| Allowable <i>d</i>               |     | 66.0   | 60.0   | 55.7   | 52.4   | 47.6   | 44.2   | 38.6  |

|                     |     |                                       |         |         |         |         |         |         |         |       |
|---------------------|-----|---------------------------------------|---------|---------|---------|---------|---------|---------|---------|-------|
| **180 x 12 VG50100P | 385 | 12mm Dia Transversals Securely welded |         |         |         |         |         |         |         |       |
|                     |     | UDL                                   |         | 8,705.0 | 4,894.8 | 3,131.2 | 2,173.2 | 1,507.9 | 1,220.6 | 963.6 |
|                     |     | <i>d</i>                              | 0.43    | 1.0     | 1.7     | 2.7     | 3.8     | 5.5     | 6.8     | 8.6   |
|                     |     | CLL                                   | 2,040.8 | 1,360.2 | 1,019.7 | 815.4   | 679.1   | 565.5   | 508.6   | 451.7 |
|                     |     | <i>d</i>                              | 0.3     | 0.8     | 1.4     | 2.13    | 3.1     | 4.4     | 5.5     | 6.9   |
|                     |     | Strength UDL                          | 8,163.1 | 3,627.1 | 2,039.5 | 1,304.7 | 905.5   | 628.3   | 508.6   | 401.5 |
|                     |     | <i>d</i>                              | 0.28    | 0.6     | 1.1     | 1.8     | 2.6     | 3.7     | 4.5     | 5.7   |

| Load kN/m <sup>2</sup>           | 1.5 | 2      | 2.5    | 3      | 4      | 5      | 7.5    | 10     |
|----------------------------------|-----|--------|--------|--------|--------|--------|--------|--------|
| Safe span mm (Strength) <i>d</i> |     | 21,177 | 20,101 | 19,175 | 17,651 | 16,441 | 14,250 | 12,752 |
| Safe span mm limited <i>d</i>    |     | 212.5  | 224.5  | 227.8  | 226.4  | 216.7  | 203.9  | 172.6  |
| Allowable <i>d</i>               |     | 90.7   | 82.4   | 76.5   | 72.0   | 65.4   | 60.7   | 53.1   |

\*\*200 x 12 VG50100P 427

|                          |         |         |         |         |         |         |         |         |
|--------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| UDL<br><i>d</i>          |         |         | 6,043.5 | 3,866.2 | 2,683.5 | 1,862.1 | 1,507.5 | 1,190.1 |
|                          | 0.38    | 0.9     | 1.5     | 2.4     | 3.5     | 5.0     | 6.1     | 7.8     |
| CLL<br><i>d</i>          | 2,519.5 | 1,679.3 | 1,259.1 | 1,006.8 | 838.6   | 698.3   | 628.1   | 557.9   |
|                          | 0.3     | 0.7     | 1.2     | 1.92    | 2.8     | 4.0     | 4.9     | 6.2     |
| Strength UDL<br><i>d</i> |         | 4,478.1 | 2,518.1 | 1,610.9 | 1,118.1 | 775.9   | 628.1   | 495.9   |
|                          | 0.26    | 0.6     | 1.0     | 1.6     | 2.3     | 3.3     | 4.1     | 5.2     |

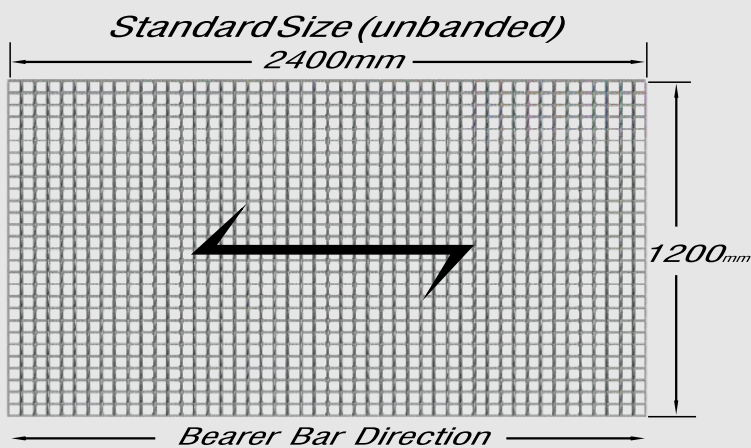
N2 = 2.4

|                                     |        |        |        |        |        |        |        |        |
|-------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Load kN/m <sup>2</sup>              | 1.5    | 2      | 2.5    | 3      | 4      | 5      | 7.5    | 10     |
| Safe span mm (Strength)<br><i>d</i> |        | 22,844 | 21,746 | 20,792 | 19,210 | 17,941 | 15,620 | 14,015 |
|                                     | 206.8  | 221.6  | 227.5  | 228.2  | 221.6  | 210.8  | 181.7  | 157.0  |
| Safe span mm limited <i>d</i>       | 20,159 | 18,315 | 17,003 | 16,000 | 14,537 | 13,495 | 11,789 | 10,711 |
| Allowable <i>d</i>                  | 100.8  | 91.6   | 85.0   | 80.0   | 72.7   | 67.5   | 58.9   | 53.6   |

Please see notes in Technical qualifications. E or OE

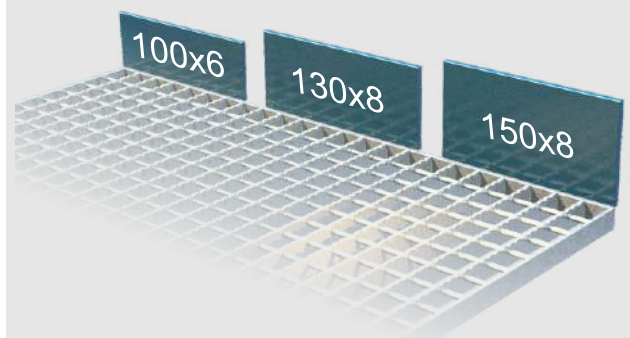
**\*\*on application only for material**  
Please see Technical qualifications.  
E or OE

## Panel Sizes



Tailored Banded Sizes ordered to Spec

## Kick/Toe Plates

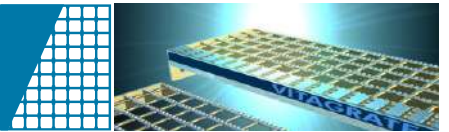


Note: All sizes are ex-stock Mill rolled sections and do not have to be cut or slit from plate or coils

## Finishes

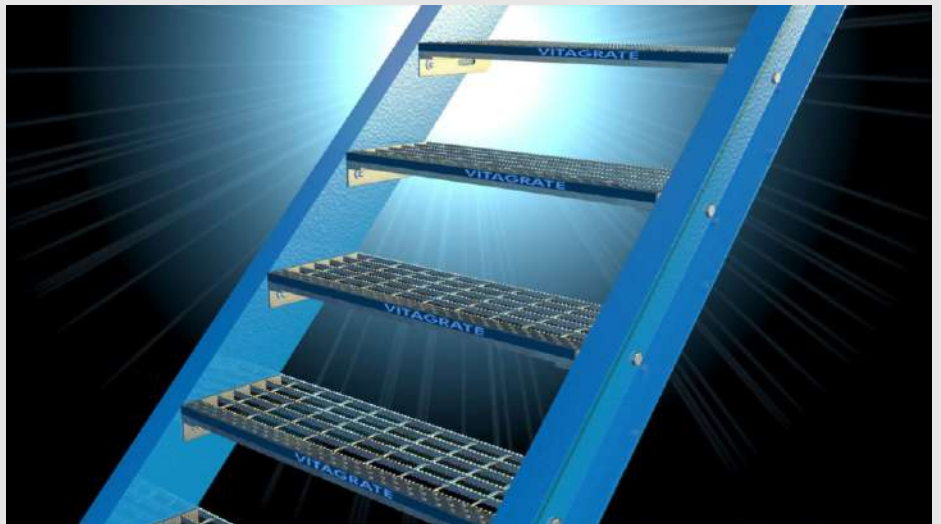


## ***Vitagrade Stairtreads***



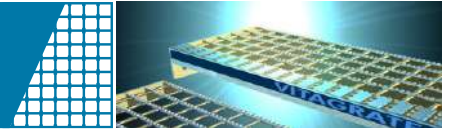
Vitagrade supply a wide range of Stairtreads manufactured to the highest safety standards.

We also supply pre-assembled staircases and cat ladders to suit your requirements

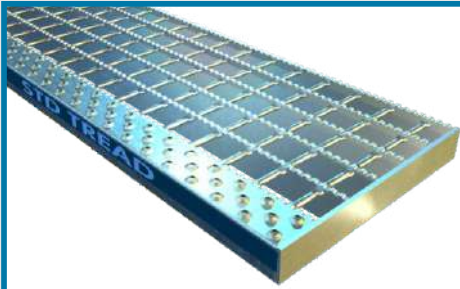




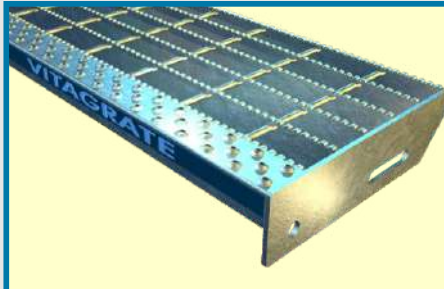
# Vitagrade Stairtreads



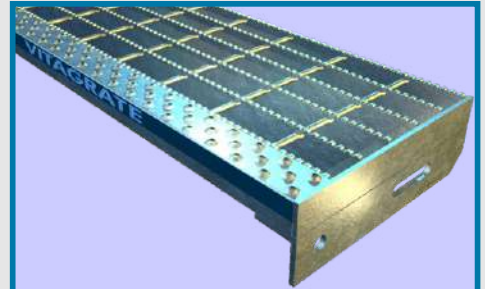
## Standard Range



VGS RANGE -Standard Stairtread

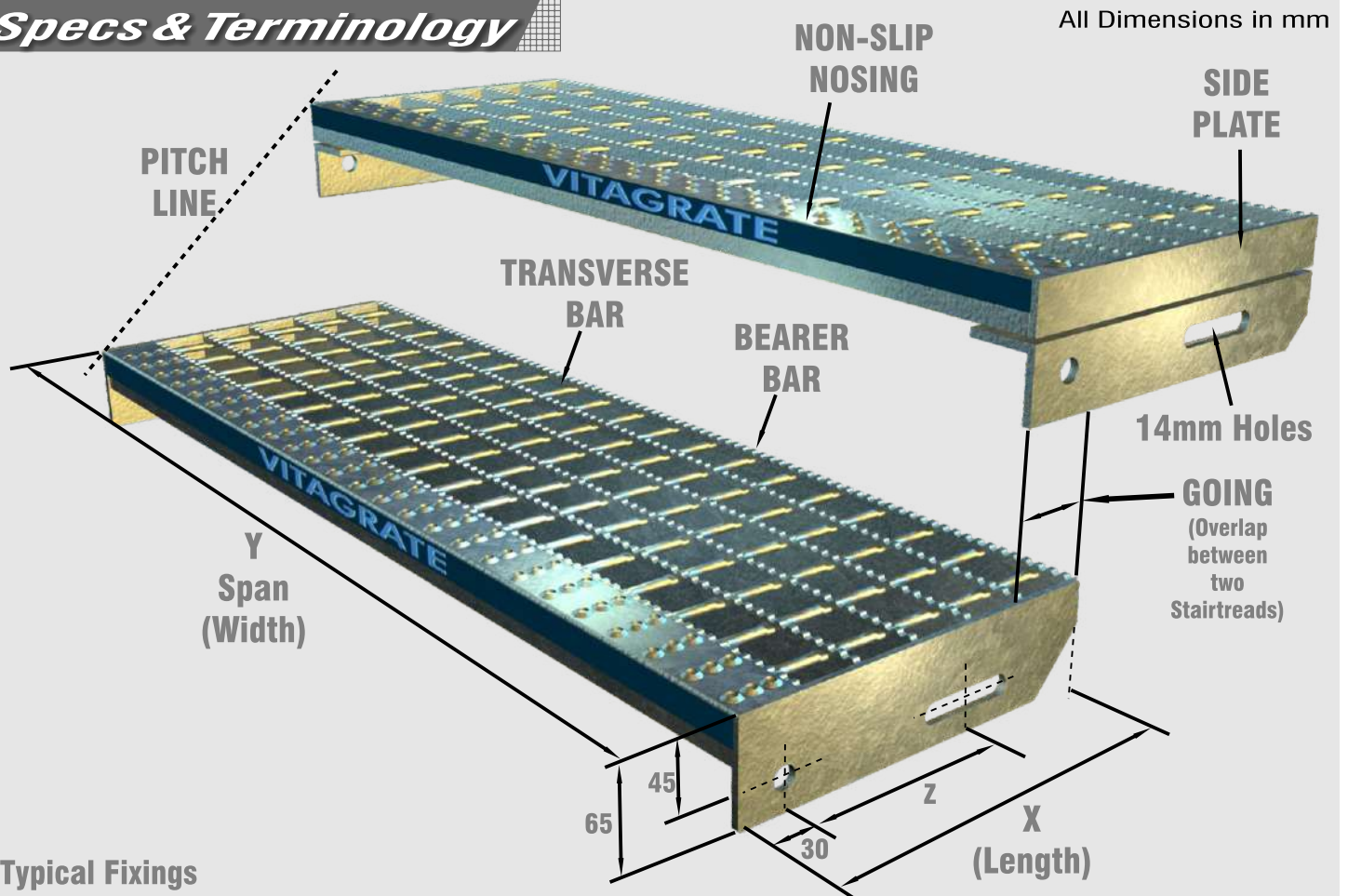


Vitagrade Stairtread

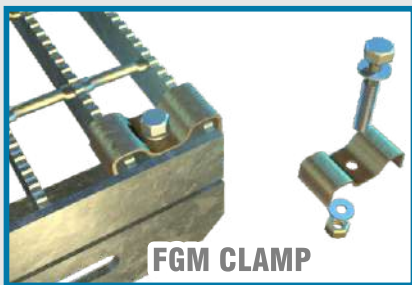


VG ECO Stairtread

## Specs & Terminology

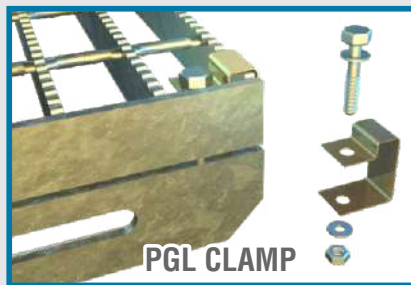


### Typical Fixings



FGM CLAMP

or



PGL CLAMP

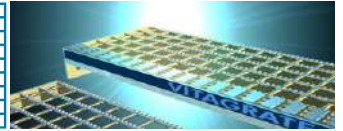
### Series

|      | X   | Y    | Z       | Bearer Bar | Deflection<br>(1.5kN load on 150mm <sup>2</sup> ) |      |           | Mass(kg) | How to Order      |
|------|-----|------|---------|------------|---------------------------------------------------|------|-----------|----------|-------------------|
|      |     |      |         |            | Front                                             | Rear | Allowable |          |                   |
| VGS1 | 250 | 750  | 115/150 | 25x4.5     | 3.14                                              | 3.93 | 3.93      | + -9     | VGS1 750-40-25-X  |
| VGS2 | 250 | 900  | 115/150 | 30x4.5     | 2.63                                              | 1.65 | 1.65      | + -10    | VGS2 900-40-25-X  |
| VGS3 | 250 | 1000 | 115/150 | 40x4.5     | 1.49                                              | 0.5  | 0.5       | + -11    | VGS3 1000-40-25-X |

Other sizes manufactured on order



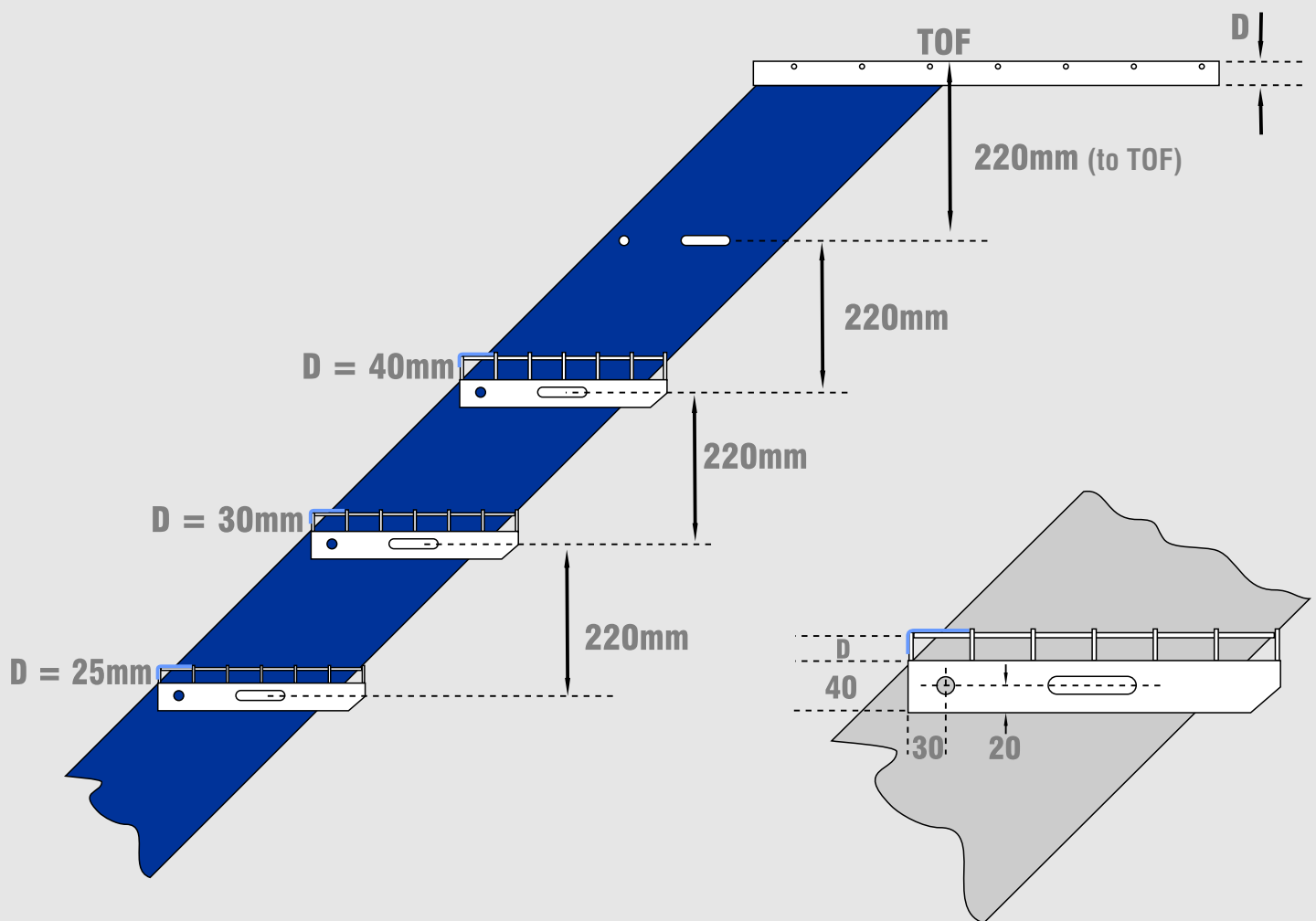
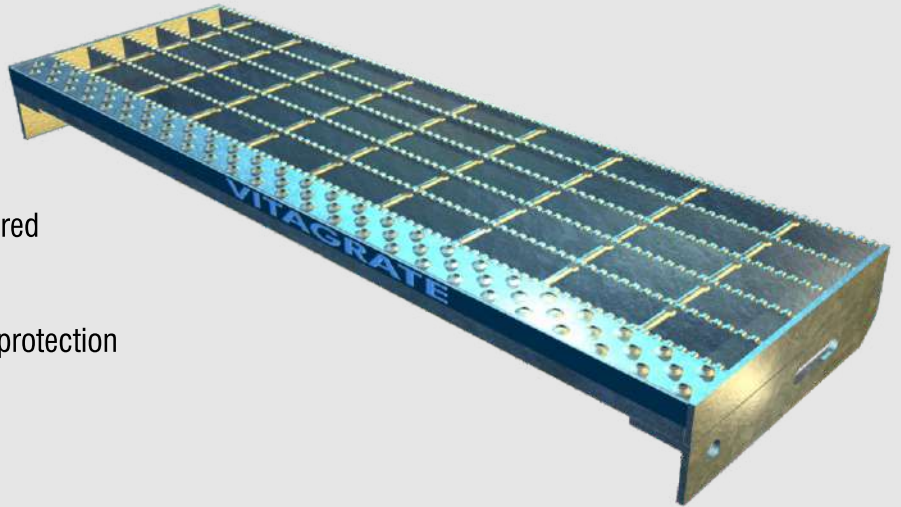
# Vitagrade Stairtreads



## VGECO Range Advantages

### The VG ECO option offers:

- easier installation and less deflection due to the Angle Ledge.
- easier design for various riser heights required with different grating depths.
- easier to keep clean and better galvanising protection



### Finishes



## ***Vitagrade Trench Covers***

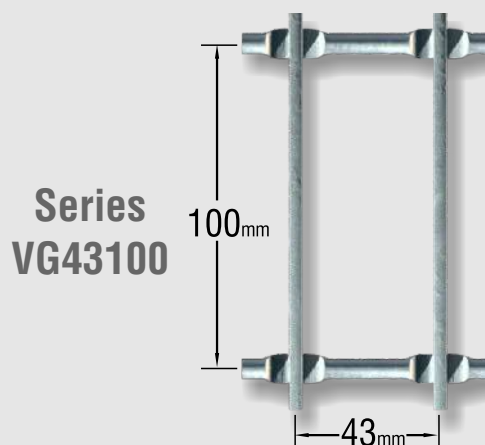
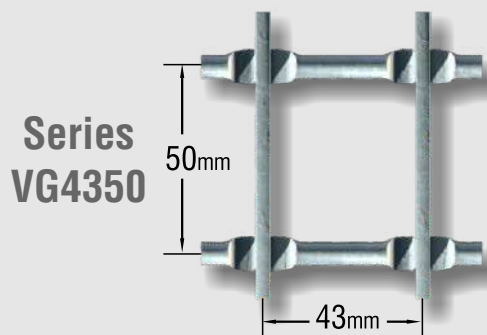


Vitagrade Trench Covers are available in our standard ranges, which are Pre-Banded and sized to suit all your trench cover requirements

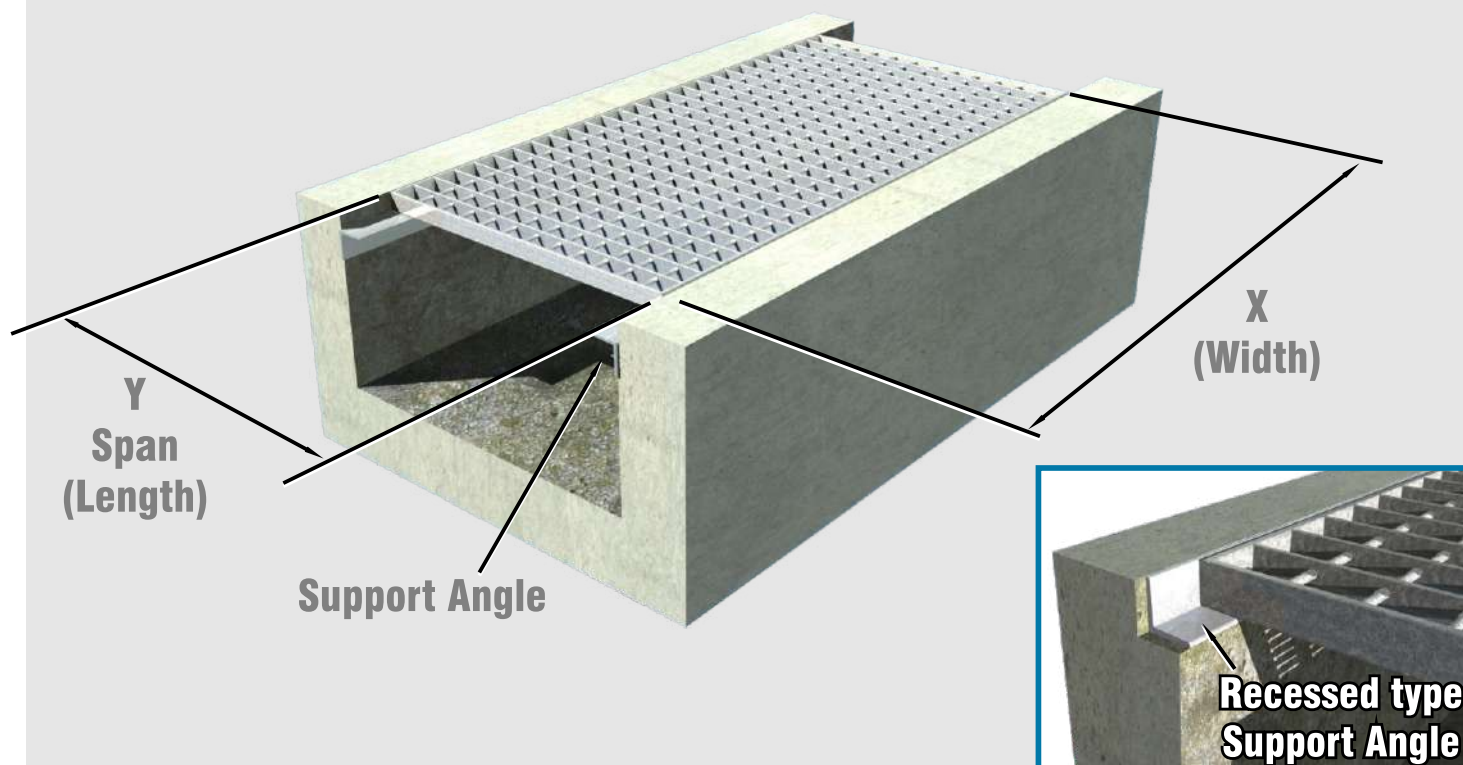


# Vitagrade Trench Covers

## Mild Steel Series



## Specs & Terminology



### Standard Trench Covers

All Dimensions in mm    Loads in kN/M

| Series | X   | Y   | Bearer Bar | Concentrated Line Load | Mass (kg) (per Panel) | Support Angle |
|--------|-----|-----|------------|------------------------|-----------------------|---------------|
| VG1    | 995 | 300 | 25x4.5     | 36.4 kN/M              | 31                    | 25 X 25 X 4,5 |
| VG2    | 995 | 350 | 30x4.5     | 33.8 kN/M              | 34                    | 30 X 30 X 4,5 |
| VG3    | 995 | 400 | 40x4.5     | 75.9 kN/M              | 43                    | 40 X 40 X 4,5 |
| VG4    | 995 | 450 | 50x4.5     | 67.1 kN/M              | 56                    | 60 X 60 X 8,0 |
| VG5    | 995 | 500 | 50x4.5     | 53.1 kN/M              | 65                    | 60 X 60 X 8,0 |

## Finishes





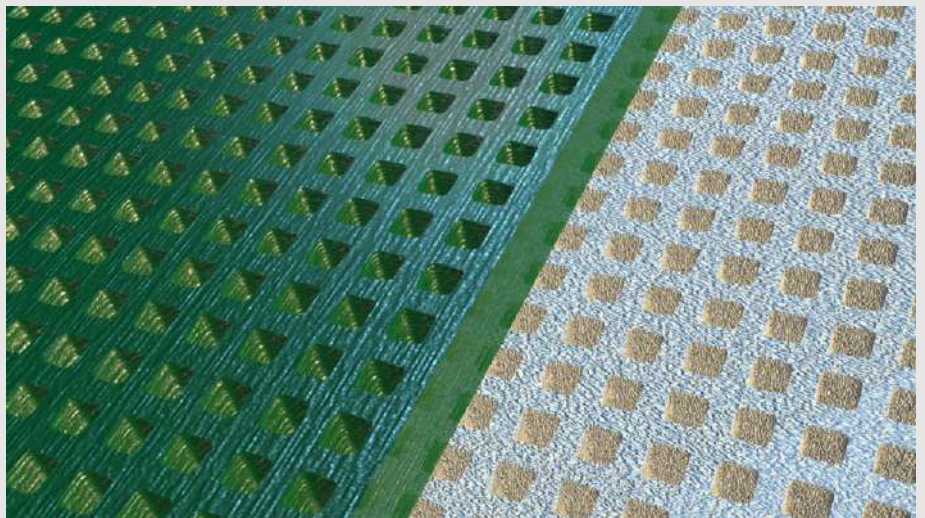
## ***Veeglass® Fibreglass Gratings***



Veeglass® Fibreglass Gratings are available in a wide range of sizes, resin finishes and colours.

FRP grating is best suited for:  
High Corrosion areas.  
Non Slip Applications  
Flame Resistant Environments  
Chemical Resistant Environments

FRP gratings are a lightweight, cost effective, low maintenance solution suitable for Walkways, Trench Covers, Stairtreads, Platforms, decking, Gullies, Mezzanine Floors, Decorative Ceilings, Gates and Wall Infills, for Decorative, Architectural and Security Applications,



# Chemical Resistance Table

GR=Good Resistance IR=Intermediate Resistance NR=Non-Resistant  
C= Use with Care - = Not Tested. For guidance only, No Guarantee is Implied

| Chemical Environment          | Concentration | Isophalic Resin |                 |                    | Vinylester Resin |                 |                    |
|-------------------------------|---------------|-----------------|-----------------|--------------------|------------------|-----------------|--------------------|
|                               |               | 25 <sup>o</sup> | 52 <sup>o</sup> | 53-93 <sup>o</sup> | 25 <sup>o</sup>  | 52 <sup>o</sup> | 53-93 <sup>o</sup> |
| Mineral Acid and Organic Acid |               |                 |                 |                    |                  |                 |                    |
| Sulphuric Acid                | 10%           | GR              | GR              | GR                 | GR               | GR              | GR                 |
|                               | 25%           | GR              | GR              | GR                 | GR               | GR              | GR                 |
|                               | 50%           | GR              | GR              | GR                 | GR               | GR              | GR                 |
| Hydrochloric Acid             | 10%           | GR              | IR              | NR                 | GR               | GR              | GR                 |
| Nitric Acid                   | 5%            | GR              | GR              | NR                 | GR               | GR              | GR                 |
|                               | 50%           | GR              | NR              | NR                 | GR               | IR              | NR                 |
|                               | High%         | NR              | NR              | NR                 | NR               | NR              | NR                 |
| Chromic Acid                  | 30%           | NR              | NR              | NR                 | GR               | GR              | IR                 |
| Phosphoric Acid               | 25%           | GR              | GR              | GR                 | GR               | GR              | GR                 |
|                               | 50%           | GR              | GR              | GR                 | GR               | GR              | GR                 |
| Acetic Acid                   | 50%           | GR              | GR              | NR                 | GR               | GR              | NR                 |
| Oxalic Acid                   | 15%           | GR              | C               | C                  | GR               | GR              | GR                 |
| Lactic Acid                   | -             | GR              | GR              | GR                 | GR               | GR              | GR                 |
| Tartaric Acid                 | -             | GR              | GR              | GR                 | GR               | GR              | GR                 |
| Alkali                        |               |                 |                 |                    |                  |                 |                    |
| Sodium Hydroxide              | 5%            | GR              | NR              | NR                 | GR               | GR              | GR                 |
| Barium Hydroxide              | 10%           | IR              | IR              | NR                 | GR               | GR              | GR                 |
| Ammonia                       | 28%           | NR              | NR              | NR                 | -                | -               | -                  |
| Calcium Hydroxide             | -             | GR              | GR              | NR                 | GR               | GR              | GR                 |
| Sodium Carbonate              | 10%           | NR              | NR              | NR                 | GR               | GR              | GR                 |
| Acid Salt                     |               |                 |                 |                    |                  |                 |                    |
| Ammonium Chloride             | -             | GR              | GR              | GR                 | GR               | GR              | GR                 |
| Ammonium Nitrate              | -             | GR              | GR              | GR                 | GR               | GR              | GR                 |
| Ammonium Sulphate             | -             | GR              | GR              | GR                 | GR               | GR              | GR                 |
| Ferric Chloride               | -             | GR              | GR              | GR                 | GR               | GR              | GR                 |
| Nickel Nitrate                | -             | GR              | GR              | GR                 | GR               | GR              | GR                 |
| Zinc Sulphate                 | 10%           | GR              | GR              | GR                 | GR               | GR              | GR                 |
| Sodium Sulphate               | -             | GR              | GR              | GR                 | GR               | GR              | GR                 |
| Alkali Salt                   |               |                 |                 |                    |                  |                 |                    |
| Sodium Hydrochlorite          | 10%           | GR              | GR              | GR                 | GR               | GR              | GR                 |
| Calcium Hydrochlorite         | -             | GR              | GR              | NR                 | GR               | GR              | GR                 |
| Neutral Salt                  |               |                 |                 |                    |                  |                 |                    |
| Magnesium Chloride            | -             | GR              | GR              | GR                 | GR               | GR              | GR                 |
| Mercury Chloride              | -             | GR              | GR              | GR                 | GR               | GR              | GR                 |
| Potassium Dichromate          | -             | -               | -               | -                  | GR               | GR              | GR                 |
| Potassium Permanganate        | -             | GR              | GR              | GR                 | GR               | GR              | GR                 |
| Sodium Nitrate                | -             | GR              | GR              | GR                 | GR               | GR              | GR                 |
| Organic Compound              |               |                 |                 |                    |                  |                 |                    |
| Petroleum                     | -             | GR              | NR              | NR                 | GR               | NR              | GR                 |
| Kerosene                      | -             | GR              | GR              | GR                 | GR               | GR              | GR                 |
| Methanol                      | -             | IR              | NR              | NR                 | GR               | GR              | NR                 |
| Ethanol                       | -             | GR              | C               | C                  | GR               | GR              | C                  |
| Ethylene Glycol               | 25-75%        | GR              | GR              | IR                 | GR               | GR              | IR                 |
| Toluene                       | -             | IR              | NR              | NR                 | IR               | NR              | NR                 |
| Acetone                       | -             | NR              | NR              | NR                 | IR               | NR              | NR                 |
| Other                         |               |                 |                 |                    |                  |                 |                    |
| Water                         | -             | GR              | NR              | NR                 | GR               | GR              | GR                 |
| Hydrogen Peroxide             | -             | GR              | GR              | NR                 | GR               | C               | C                  |
| Chlorine Dioxide Bleach       | -             | GR              | GR              | NR                 | GR               | GR              | GR                 |

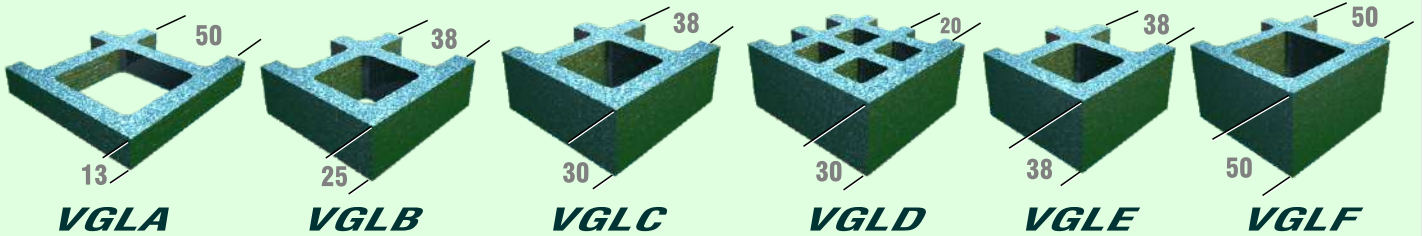
# Veeglass® FRP Gratings

## Moulded Series

All Dimensions in mm

### Standard Series

(available with or without Grit Top Surface)

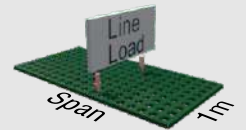


| Series | Dimensions   | Standard Panel Sizes | Open Area | Mass kg/m <sup>2</sup> | Loads across Spans based on Recommended Max Deflection of 5mm |      |            |      |            |     |            |     |             |     |             |     |
|--------|--------------|----------------------|-----------|------------------------|---------------------------------------------------------------|------|------------|------|------------|-----|------------|-----|-------------|-----|-------------|-----|
|        |              |                      |           |                        | 450mm Span                                                    |      | 600mm Span |      | 750mm Span |     | 900mm Span |     | 1050mm Span |     | 1200mm Span |     |
|        |              |                      |           |                        | UD                                                            | LL   | UD         | LL   | UD         | LL  | UD         | LL  | UD          | LL  | UD          | LL  |
| VGLA   | 13 X 50 X 50 | 2440 x 1220          | 72%       | 5.9                    | -                                                             | -    | -          | -    | -          | -   | -          | -   | -           | -   | -           | -   |
| VGLB   | 25 x 38 x 38 | 2440 x 1220          | 68%       | 12.3                   | 18                                                            | 483  | 5.75       | 203  | 2.35       | 104 | 1.13       | 60  | -           | -   | -           | -   |
| VGLC   | 30 x 38 x 38 | 2440 x 1220          | 68%       | 14.6                   | 50                                                            | 1465 | 15.6       | 617  | 6.3        | 313 | 2.9        | 179 | 1.5         | 112 | 0.97        | 72  |
| VGLD   | 30 x 20 x 20 | 2440 x 1220          | 42%       | 18.0                   | 58                                                            | 1100 | 18.1       | 462  | 7.4        | 237 | 3.6        | 138 | -           | -   | -           | -   |
| VGLE   | 38 x 38 x 38 | 2440 x 1220          | 68%       | 19.5                   | 60                                                            | 1697 | 19         | 710  | 7.75       | 365 | 3.75       | 210 | 2           | 132 | 1.2         | 89  |
| VGLF   | 50 x 50 x 50 | 2440 x 1220          | 71%       | 23.5                   | -                                                             | -    | 37.5       | 1440 | 15.5       | 735 | 7.4        | 128 | 4           | 270 | 2.36        | 180 |

UD=  
Uniform  
Distributed Load  
(kpa)

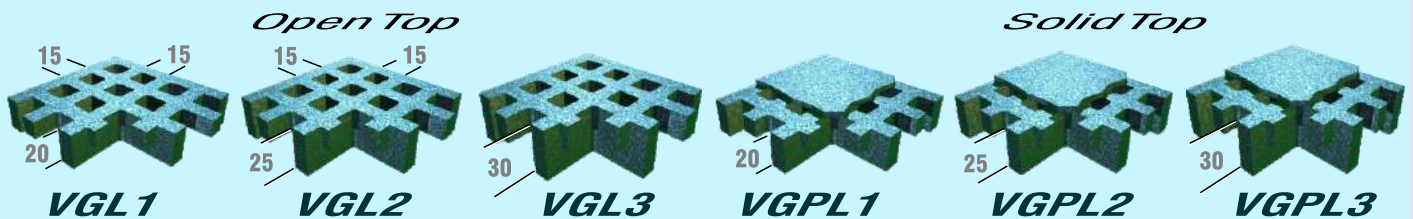


LL=  
Line Load  
(kg/m)



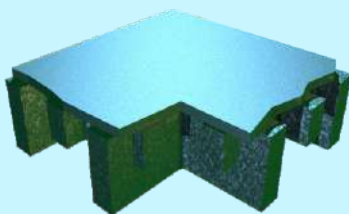
### MiniGrate Series

(Available in Open Top or Solid Top)

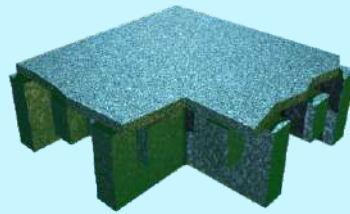


| Series | Dimensions   | Standard Panel Sizes | Series | Dimensions   | Standard Panel Sizes |
|--------|--------------|----------------------|--------|--------------|----------------------|
| VGL1   | 20 x 15 x 15 | 2440 x 1220          | VGPL1  | 20 x 15 x 15 | 2440 x 1220          |
| VGL2   | 25 x 15 x 15 | 2440 x 1220          | VGPL2  | 25 x 15 x 15 | 2440 x 1220          |
| VGL3   | 30 X 15 X 15 | 2440 x 1220          | VGPL3  | 30 X 15 X 15 | 2440 x 1220          |

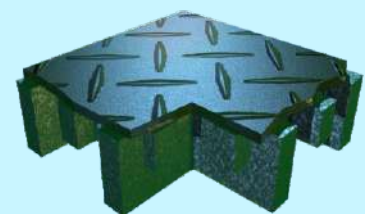
Solid Top Series is available in:



Smooth Top

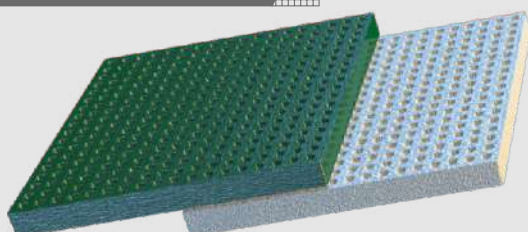


Grit Top

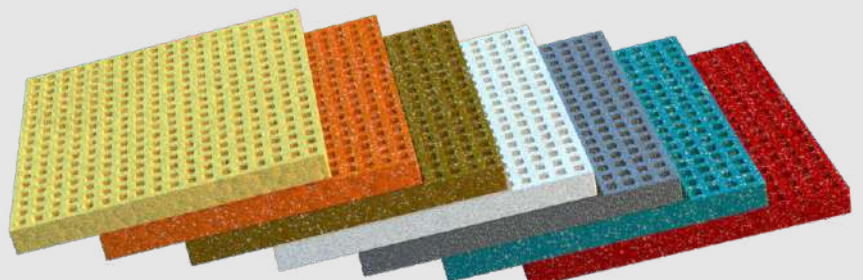


Pattern Top

### Colours



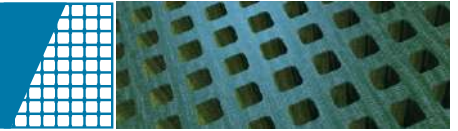
Green and Light Grey  
available Standard



Other Colours Available on Request



# Veeglass® FRP Gratings



## Resin Types

| Resin Types | Resin Code | Description                                                     | Corrosion Resistance | Flame Spread Rating ASTM E84 | Standard Colours     |
|-------------|------------|-----------------------------------------------------------------|----------------------|------------------------------|----------------------|
| Polyester   | VFR-25     | Industrial Grade Corrosion & Fire Retardant                     | Very Good            | Class 1, 25 or less          | Green, Grey          |
| Polyester   | VFR-30     | Food Grade Corrosion & Fire Retardant                           | Very Good            | Class 1, 30 or less          | Green, Grey          |
| Vinylester  | VFR-25A    | Superior Corrosion Resistance & Enhanced Fire Retardant         | Excellent            | Class 1, 25 or less          | Green, Yellow Orange |
| Phenolic*   | VPH-5      | Corrosion Resistance, Superior Fire Retardant & Low Toxic Smoke | Very Good            | Class 1, 5 or less           | Brown                |

\* Phenolic grating withstands prolonged fire exposure without structural damage. Best Suitable where fire resistance, low smoke and toxic emissions are critical

## Also Available

### FRP Moulded Stairtreads

Standard Lengths  
235 / 273mm



Standard Widths (Span)  
729 / 767 / 881

## How to Cut FRP Grating

To ensure proper safety, please follow these guidelines when cutting FRP Grating



Wear Eye Protection,



Dust Mask and



Gloves

Use a masonry Carbide or Diamond Coated Cutting Blade (not grinding Disc)

A Grinder or Jigsaw can be used for cutting

Cut the Panel from the underside to ensure a good finish

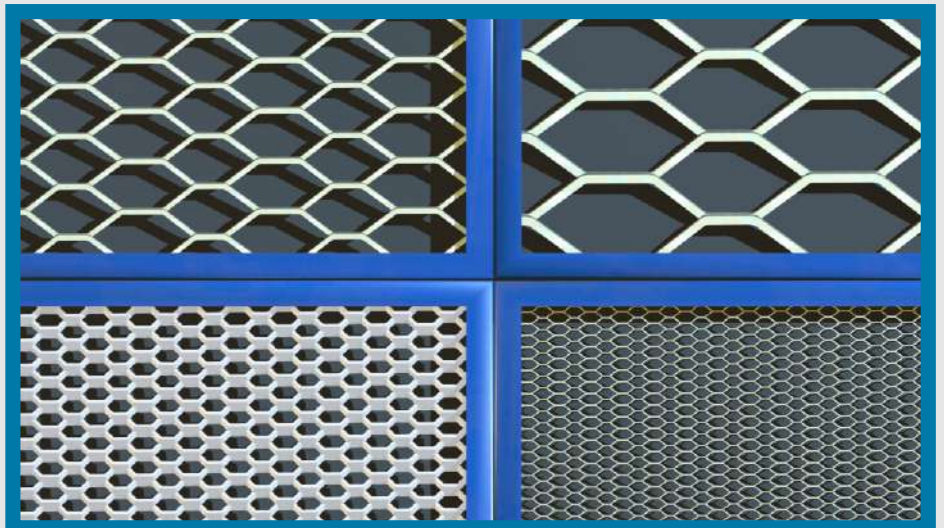
Seal all edges with a light coating of UV stable Resin

## **Viex<sup>®</sup> Expanded Metals**

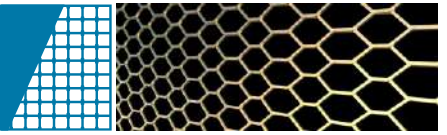


Viex<sup>®</sup> Expanded Metal Range boasts innovative designs suitable for multiple cost effective applications.

From security screens, walkways and protective guards, shelving, displays, insect screens, sun screens, fencing, grilles, to mention only a few, Vi-Ex is available in a wide range of strengths and sizes to suit all your requirements.



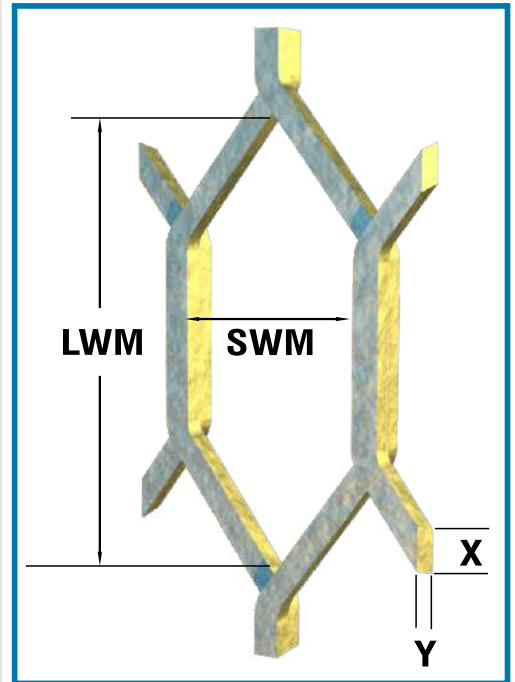
# Viex® Expanded Metals



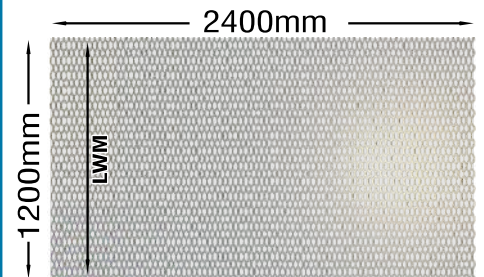
## Viex® General Standard Sizes

| TYPE     | SWM | LWM | X<br>(WIDTH-mm) | Y<br>(THICKNESS-mm) | Mass<br>kg/m <sup>2</sup> |
|----------|-----|-----|-----------------|---------------------|---------------------------|
| 032R     | 3   | 6   | 1.0             | 0.5                 | 2.5                       |
| 052R     | 5   | 10  | 1.0             | 1.0                 | 2.9                       |
| 052F     | 5   | 10  | 1.0             | 1.0                 | 2.9                       |
| 082R     | 8   | 20  | 2.0             | 1.0                 | 3.7                       |
| 082F     | 8   | 20  | 2.0             | 1.0                 | 3.7                       |
| 513R     | 10  | 30  | 2.5             | 1.6                 | 5.9                       |
| 513CR    | 10  | 30  | 3.0             | 1.0                 | 4.5                       |
| 513F     | 10  | 30  | 3.0             | 1.6                 | 5.9                       |
| 813R     | 15  | 40  | 3.0             | 1.6                 | 4.6                       |
| 813F     | 15  | 40  | 3.0             | 1.6                 | 4.6                       |
| 813RH    | 15  | 40  | 3.0             | 2.5                 | 7.2                       |
| 023R     | 25  | 50  | 3.0             | 1.6                 | 2.5                       |
| 023GR    | 25  | 50  | 3.0             | 3.0                 | 4.8                       |
| 023JR    | 25  | 50  | 6.0             | 4.5                 | 15.8                      |
| BRAI 320 | 25  | 50  | 3.0             | 1.6                 | 2.5                       |
| 023DF    | 25  | 50  | 3.0             | 2.0                 | 3.2                       |
| 023EF    | 25  | 50  | 4.5             | 2.5                 | 6.4                       |
| 023HF    | 25  | 50  | 4.5             | 3.0                 | 7.7                       |
| 113R     | 50  | 80  | 4.5             | 2.5                 | 2.8                       |
| 113F     | 50  | 80  | 4.5             | 2.5                 | 2.8                       |
| 033R     | 80  | 200 | 4.5             | 4.5                 | 2.6                       |

**IMPORTANT**  
To achieve the loadings for our Viex range, the panels must be properly secured to the supporting structure by welding or bolting.



## Standard Panel Sizes (Cut to size on request)



## Viex® Medium Standard Sizes

| TYPE   | SWM | LWM | X<br>(WIDTH-mm) | Y<br>(THICKNESS-mm) | Mass<br>kg/m <sup>2</sup> |
|--------|-----|-----|-----------------|---------------------|---------------------------|
| 523R   | 20  | 60  | 3.0             | 3.0                 | 6.2                       |
| 523AR  | 20  | 60  | 6.0             | 4.5                 | 20.2                      |
| 523F   | 20  | 60  | 3.0             | 3.0                 | 6.2                       |
| 523FH  | 25  | 50  | 4.5             | 3.0                 | 7.7                       |
| 81WR   | 40  | 115 | 4.5             | 4.5                 | 6.6                       |
| 83R    | 75  | 185 | 20.0            | 6.0                 | 23.7                      |
| 523F2H | 25  | 50  | 10.0            | 3.0                 | 18.3                      |

## Finishes

Our Expanded Metal Range is available in:

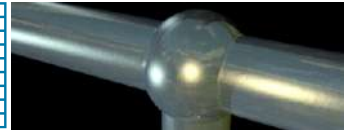
Mild Steel

Stainless Steel



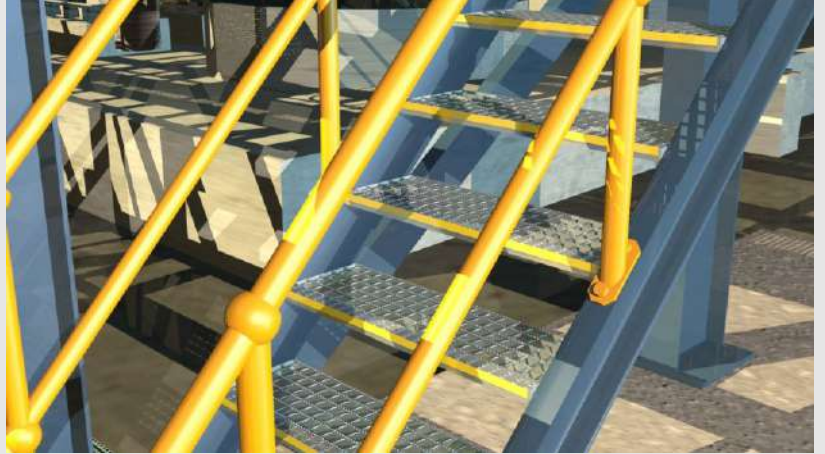


# Vitagrade Handrailing



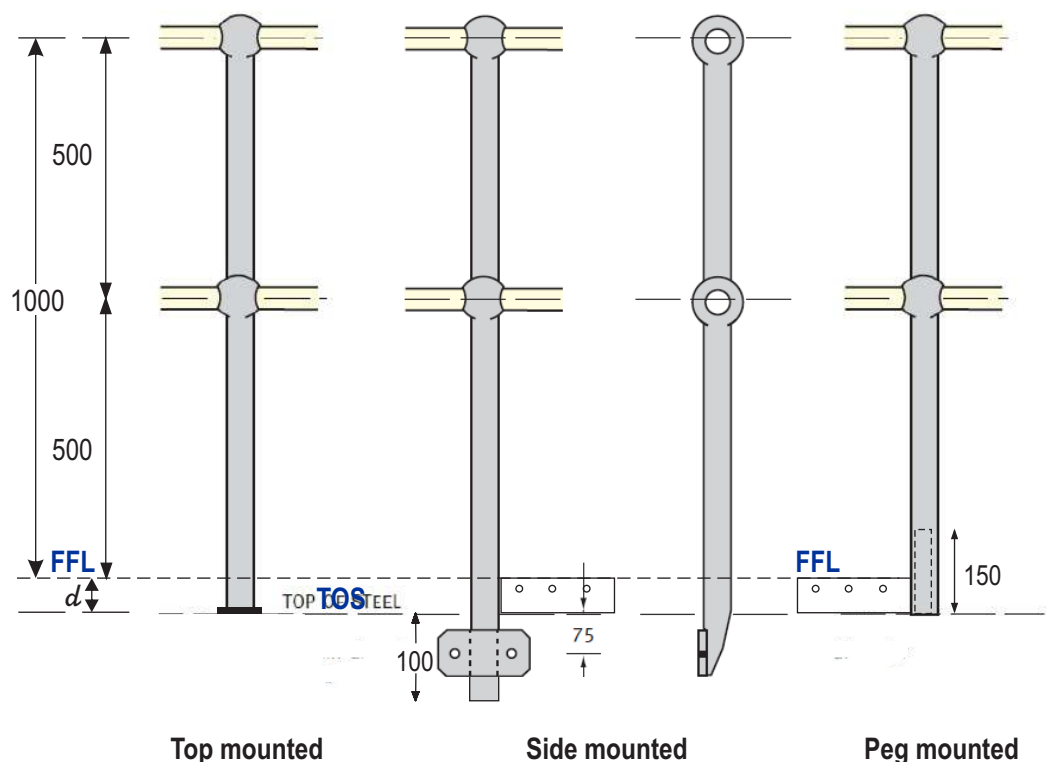
Vitagrade supply an extensive range to suit all your industrial and architectural handrailing requirements.

Handrailing is supplied in Mild Steel, Galvanised and Stainless Steel Tubular and Solid Section Welded ranges.



Please note that Vitagrade have given clients two Stanchion height options to comply with the recommended safety regulations of the handrail (top rail) being 1000mm above floor level. (I.e. floor grating or other product thickness)

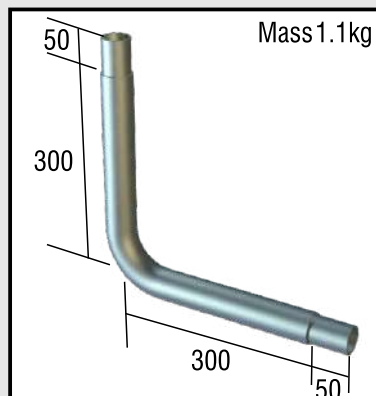
This is standardised as 1050mm as illustrated to cover a range of floor thicknesses from 25mm to 50mm top of floor heights. This is to comply with SANS and the SAISC Red Book requirements for the handrail to be a minimum of 90mm above the flooring walkway surface ( $d = 1000\text{mm}$ )



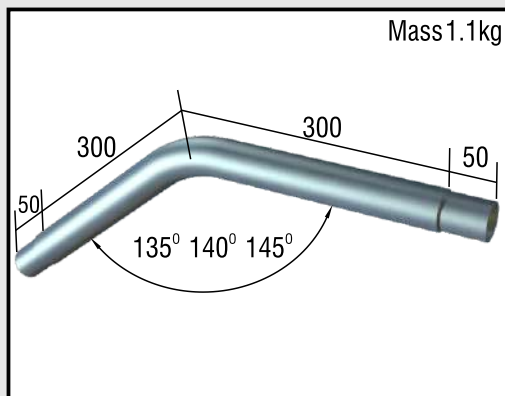
# Vitagrade Handrailing

## Bends & Accessories

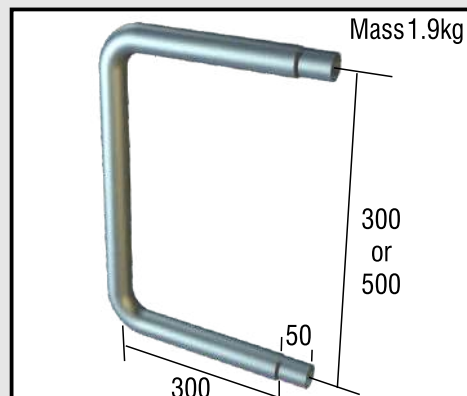
All Dimensions in mm



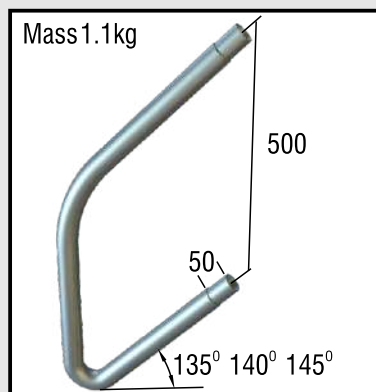
**Standard 90° Bend**



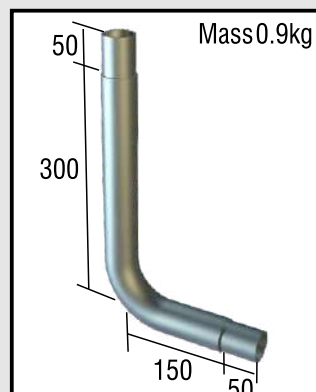
**Standard 135° / 140° / 145° Bend**



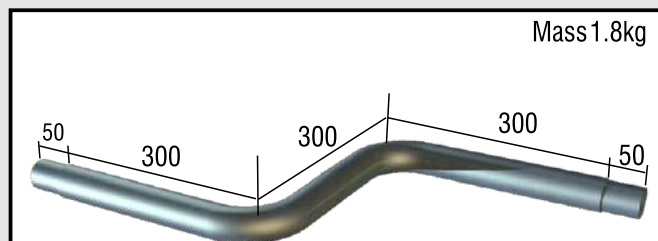
**Standard 90° Closure**



**Standard 135° 140° 145° Closure**

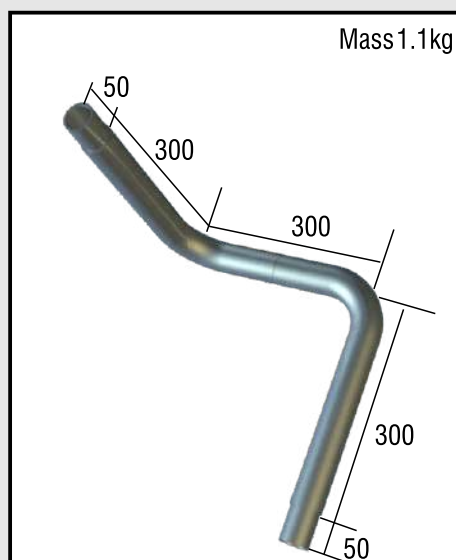


**Standard 90° Short Radius Bend**



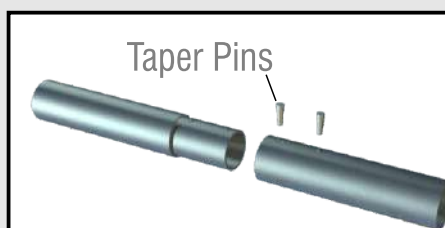
Note: The Standard Offset Kink Bend is made from two Short Radius Bends

**Standard Offset Kink Bend**

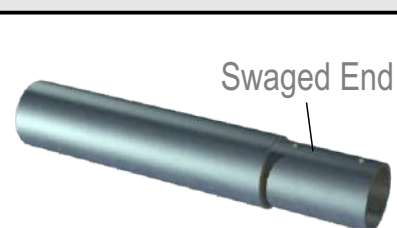


Note: The Stair Return Bend is made from two Short Radius Bends

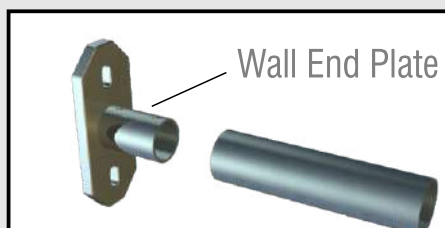
**Stair Return Bend**



**Taper Pins**



**Ferrule**



**Wall End Plate**

Loose Ferrules can be supplied on order



**Visable Ferrules ©**

Available in Tubular Mild Steel and Stainless Steel and Solid Welded

All Mild Steel Bends are supplied with swaged ends

# Vitagrade Handrailing

## Handrail Stanchions

All Dimensions in mm

|                                               |                     |                             |                            |                     |                                                |                            |                             |
|-----------------------------------------------|---------------------|-----------------------------|----------------------------|---------------------|------------------------------------------------|----------------------------|-----------------------------|
| <p><b>VT90</b></p>                            | <p><b>VTX90</b></p> | <p><b>VTA 35/40/45°</b></p> | <p><b>VS90</b></p>         | <p><b>VSX90</b></p> | <p><b>R=Right</b><br/><b>VSR 35/40/45°</b></p> |                            |                             |
| <p><b>L=Left</b><br/><b>VSL 35/40/45°</b></p> | <p><b>VP90</b></p>  | <p><b>VPX90</b></p>         | <p><b>VP 35/40/45°</b></p> | <p><b>VSM90</b></p> | <p><b>VTM90</b></p>                            |                            |                             |
| <p><b>VSD90</b></p>                           | <p><b>VTD90</b></p> | <p><b>V090</b></p>          | <p><b>VOE90</b></p>        | <p><b>VOX90</b></p> | <p><b>VOEX90</b></p>                           | <p><b>VA 35/40/45°</b></p> | <p><b>VAX 35/40/45°</b></p> |



# Vitagrade Handrailing



## Stanchion Load Tables



HS - Handrail System. Stanchion centres shown under different column loadings need to be spaced at these centres to achieve the loads shown.

All Dimensions in mm

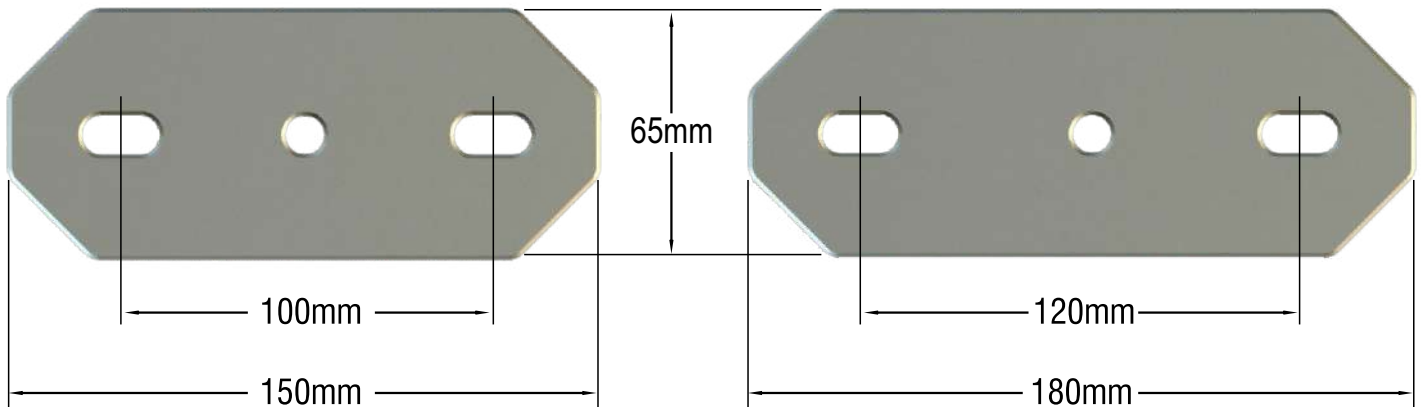
| Mild Steel      |                | HS    | Light Duty<br>0.36 KN/m | Medium Duty<br>0.50 KN/m | Heavy Duty<br>0.784 KN/m | Extra Heavy Duty<br>1.0 KN/m | Crowd Loading<br>3.0 KN/m | Approx. Mass |
|-----------------|----------------|-------|-------------------------|--------------------------|--------------------------|------------------------------|---------------------------|--------------|
| Handrail Size   | Stanchion Size |       |                         |                          |                          |                              |                           | per metre    |
| 34 x 2.5        | 43 x 2.5       | VG1H  | 1600                    | 1400                     |                          |                              |                           | 6.8 kg       |
| 34 x 2.5        | 43 x 3.0       | VG2H  | 1600                    | 1400                     |                          |                              |                           | 7.8 kg       |
| 38 x 2.5        | 48 x 4.0       | VG3H  | 1800                    | 1600                     | 1400                     | 1300                         |                           | 8.7 kg       |
| 43 x 2.5        | 60 x 3.0       | VG4H  | 1800                    | 1800                     | 1800                     | 1800                         |                           | 12.2 kg      |
| 60 x 4.0        | 95 x 4.0       | VG5H  | 1800                    | 1800                     | 1800                     | 1800                         | 1700                      | 20 kg        |
| Stainless Steel |                |       |                         |                          |                          |                              |                           |              |
| Handrail Size   | Stanchion Size |       |                         |                          |                          |                              |                           |              |
| 32 x 1.5        | 38 x 2.0       | VSS1H | 1300                    |                          |                          |                              |                           | 5.5 kg       |
| 38 x 2.0        | 50 x 2.0       | VSS2H | 1700                    | 1500                     |                          |                              |                           | 6.6 kg       |

## Stanchion Base Plates



**STANDARD BASE PLATE**  
*Top and Side*

**STANDARD BASE PLATE**  
*Angle*



NOTE: Slotted Holes are 18mm x 30mm

## Finishes



**MILD STEEL**  
**UNCOATED**



**MILD STEEL**  
**GALVANISED**

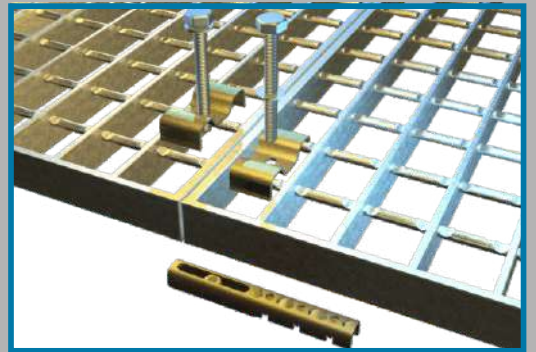
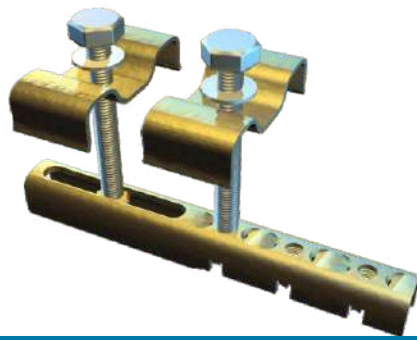


**STAINLESS STEEL**  
**POLISHED**

# Vitagrate Grating Fixings

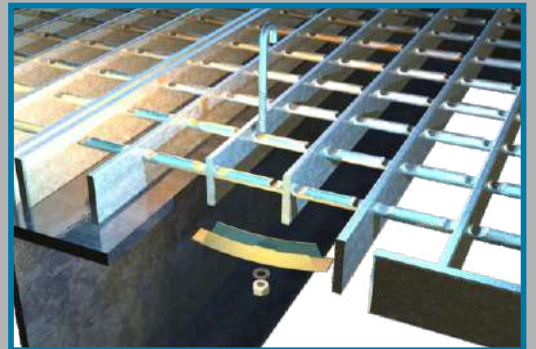
## Continuity Clip

The Continuity Clip is used for joining two panels securely together



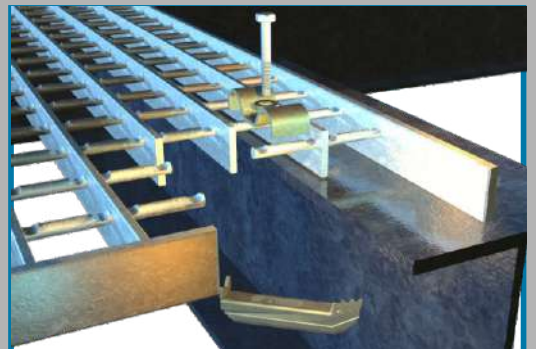
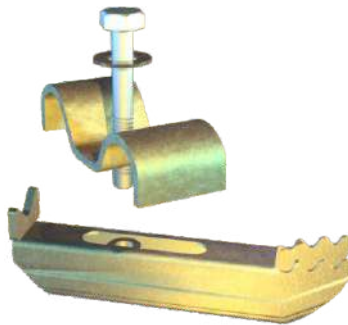
## Hook Bolt Clamp

The Hook Bolt Clamp secures the panels to the support beams from underneath



## Combo Clip

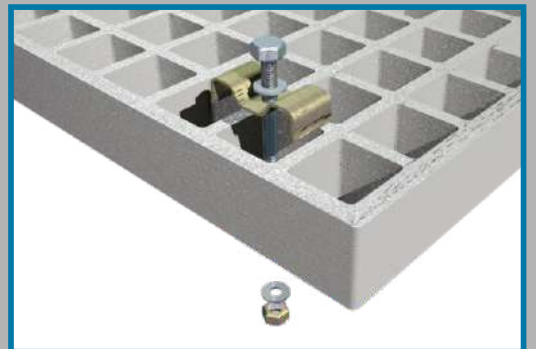
The Combo Clip is a strong method of securing the panels to the support beams from the top floor surface



## Fixings for FRP Gratings and Stair Treads

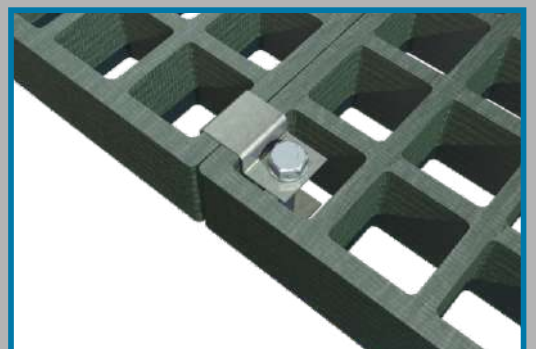
### FGM Clamp

M Type clamp available in Stainless Steel. A minimum of 4 fixings per Panel per m<sup>2</sup> is recommended.



### FGC Clamp

The C type clamp is suitable for securing FRP panels together



## ***Contact Details***



**Vitagrate (Pty) Ltd**

[www.vitagrate.com](http://www.vitagrate.com)

**Tel: +27(0)10 035 4921**  
**Emai: sales@vitagrate.com**

**Mercury Industrial Park  
14 Piet Bekker Street  
Jet park  
Boksburg  
1459**

Reg. no: 2018/595041/07  
VAT no: 4660294762

# ***Superior Service***