WE PUT THE GREAT IN GRATING
GRATING WORLD is a member of a specialised equipment group which has provided solutions for engineers, architects, designers and end-users since 1956 ... from minerals beneficiation, petrochemicals and chemicals, pulp and paper, foods and beverages, to construction.

GRATING WORLD is dedicated to being southern Africa’s one-stop source for world-class solutions in access platforms, walkways, stairtreads, handrailing, flooring and steelwork in Carbon Steel, Stainless Steel (3CR12, 304, 316), and Composites (FRP).

GRATING WORLD focuses on practical and aesthetic engineering design, with advanced technology and a wide product range, to provide you with cost-effective, value-engineered solutions.

GRATING WORLD has decades of valuable experience in design and fabrication to offer off-the-shelf and customised solutions.
GRATING STANDARDS

GRATEX® grating products are manufactured to the ISO 9001:2008 Quality Management System and comply with the following standards:

<table>
<thead>
<tr>
<th>USA</th>
<th>UK</th>
<th>Steel Grating Standards</th>
<th>Steel Product Standards</th>
<th>Hot Galvanising Standards</th>
<th>FRP Grating Standards</th>
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<tr>
<td>ANSI/NAAMM (MBG531-88) BS4592-1987</td>
<td>ASTM (A36) BS4360 (43A)</td>
<td>ASTM (A123) ISO 1461</td>
<td>ASTM (E84)</td>
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</table>

GRATEX® grating products offer solutions in three material types to suit specific applications:

- **CARBON STEEL** An economical solution in non-aggressive environments
- **STAINLESS STEEL** For corrosion resistance, low maintenance and strength
- **FIBREGLASS (FRP)** For lightness, ease of installation and long life

GRATEX® grating is available in a variety of finishes to suit practical and aesthetic needs. For safety, the anti-slip options are excellent, with metal grating featuring serrated bearer bars and ridged transverse bars; and composite grating being available with a silica grit finish.

PEDESTRIAN LOAD CONDITIONS

<table>
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<tr>
<th>Duty</th>
<th>Loading Description</th>
<th>kN/m²</th>
<th>kg/m²</th>
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<tr>
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<td>MAINTENANCE PLATFORM</td>
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<tr>
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<td>PEDESTRIAN PLATFORM (2 PERSONS)</td>
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<td>300</td>
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<tr>
<td>MEDIUM DUTY</td>
<td>PEDESTRIAN - CROWDED</td>
<td>4.0</td>
<td>400</td>
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<td></td>
<td>FACTORY, WORKSHOP, TROLLEY PASSAGES</td>
<td>5.0</td>
<td>500</td>
</tr>
<tr>
<td>HEAVY DUTY</td>
<td>HEAVY LOADING AREA, BOILER EQUIPMENT, PLANT AREA</td>
<td>7.5</td>
<td>750</td>
</tr>
</tbody>
</table>

IMPORTANT NOTES

1. **SELECTION CRITERIA**
   - 1. Select appropriate grating material depending on service conditions
   - 2. Determine applicable load conditions and impact factors
   - 3. Determine the span of grating support structure
   - 4. Select appropriate GRATEX® from the Load/Span Tables

2. **LOADINGS**
   - 1. \( U, \) kg/m², maximum allowable unfactored uniformly distributed loading for that stated span
   - 2. \( C, \) kg/m, maximum allowable unfactored centre line load per metre
   - 3. Load/Load Tables based on elastic deflections of span/200 or 10mm, whichever the lesser when subjected to the specified unfactored load using Young’s modulus, \( 200 \times 10^9 \) Pa
   - 4. For serrated grating reduce tabulated allowable loads by 10% and maximum span per load category by 3.5%
   - 5. All table loadings to be taken as nominal and should not be used as guaranteed values
   - 6. Appropriate safety factors must be applied by the designer

3. **ALLOWANCES**
   - 1. Galvanising will increase stated mass per square metre by approximately 8 – 10%
   - 2. Banding will increase mass by approximately 6% depending on grating configuration
**WE PUT THE GREAT IN GRATING**

**GRATING DEFINITIONS**

- **Bearer bar**: Longitudinal loadbearing bar spanning between supports.
- **Serrated bearer bar**: Bearer bar with serrated top surface for increased skid resistance.
- **Transverse bar**: Bar fixed at right angles to loadbearing bars to provide lateral restraint.
- **Pitch**: Distance centre-to-centre of loadbearing bars or between centres of lateral restraint (transverse bar).
- **Cut out (Tailored panels)**: Area where grating has been removed to permit service, plant or structural members to pass through or to clear obstructions.
- **Width**: Overall width of grating measured at right angle to the loadbearing bars.
- **Length (Span)**: Overall length of grating measured in a direction parallel to the bearer bars. Effective span is the span between members supporting grating.

**GRATEX® GRATING PRODUCT CODE DESCRIPTION**

- **Surface finish**: U - Uncoated, B - Bitumenised, G - Galvanised
- **Panel Type**: O - Open ended, C - Closed (Banded)
- **Bearer bar type**: P - Plain; S - Serrated; I - I-profile
- **Transverse bar pitch (mm)**: 50, 100
- **Bearer bar thickness (mm)**: 3, 4.5, & I (6 x 8, 7 x 12)
- **Bearer bar depth (mm)**: 25, 30, 35, 40, 50, 75
- **Type of manufacture**: F - Forgeweld; P - Punched
- **Type of material**: C - Carbon Steel; S - Stainless Steel (3CR12, 304, 316)

N.B. Special sizes and pitches are available on request.
Around the world ... whether the United States, Europe, or the Far East ... the definitive international grating standard. Jig assembly and automatic resistance welding (forgewelding) creates structurally rigid grating, with load bearing bars and transverse bars fused under pressure. There’s no need for the manual assembly, punching, threading and swaging previously used for South African grating.

GRATING WORLD now brings you FORGEWELD® GW40® resistance heated and fused CARBON STEEL GRATING with special 6mm and 8mm twisted transverse bars for improved skid resistance. Serrated edge load bearing bars may be specified for especially slippery conditions.

Without a doubt, FORGEWELD® GW40® CARBON STEEL GRATING offers the most economical solution for most environments.

Still not sure? Ask us for a head-on physical demonstration of the two grating types.
### GRATEX® CS

**FORGEWELD® GW40® CARBON STEEL GRATING**

**FORGEWELD® GW40® SERRATED CARBON STEEL GRATING**

**FORGEWELD® GW40® UNSERRATED CARBON STEEL GRATING**

**LOAD/SPAN TABLES**

- **APPROX MASS m²**
- **LOAD C = kg/m**
- **LOAD U = kg/m²**
- **BEARER BAR SPAN (mm)**
- **MAX DEFLECTION (mm)**
  - 3
  - 3.75
  - 4.5
  - 5
  - 6.25
  - 7.5
  - 8.75
  - 10
  - 10
- **LOAD CAT kN/m²**
- **MAX SPAN (mm) FOR LOAD CATEGORY**

#### Size Code: 25/3/40/50
- **20.4** C: 1276 816 566 459 294 204
- **3** 1350
- **5** 1140
- **7.5** 1000

#### Size Code: 30/3/100
- **23.3** C: 2206 1412 981 794 508 353 259
- **3** 1620
- **5** 1570
- **7.5** 1200

#### Size Code: 35/3/50
- **27** C: 3502 2241 1556 1261 807 560 421 315
- **3** 1900
- **5** 1600
- **7.5** 1400

#### Size Code: 40/3/50
- **29.2** C: 5209 3346 2324 1882 1205 837 615 471 330
- **3** 2170
- **5** 1830
- **7.5** 1510

#### Size Code: 25/4.5/40/100
- **27.9** C: 1914 1225 850 689 441 306 225
- **3** 1550
- **5** 1330
- **7.5** 1140

#### Size Code: 30/4.5/40/100
- **32.2** C: 3310 2118 1471 1190 763 529 389 302
- **3** 1860
- **5** 1600
- **7.5** 1370

#### Size Code: 35/4.5/40/100
- **38.9** C: 5253 3362 2335 1891 1210 840 617 473 349
- **3** 2170
- **5** 1830
- **7.5** 1600

#### Suggested Range

1. **U, kg/m², maximum allowable unfactored uniformly distributed loading for that stated span**
2. **C, kg/m, maximum allowable unfactored centre line load per metre**
3. **Load/Span Tables based on elastic deflections of span/200 or 10mm, whichever the lesser when subjected to the specified unfactored load using Young’s modulus, 200x10⁹ Pa**
4. **For serrated grating reduce tabulated allowable loads by 10% and maximum span per load category by 3.5%**
5. **All table loadings to be taken as nominal and should not be used as guaranteed values**
6. **Appropriate safety factors must be applied by the designer**
7. **Galvanising will increase stated mass per square metre by approximately 8 – 10%**
8. **Banding will increase mass by approximately 6% depending on grating configuration**
GRATELOK® GL40® CARBON STEEL GRATING is constructed by inserting round transverse bars through punched rectangular bearer bars, then swaging (pressure deforming) the transverse bars on each side of bearer bars. This produces a neat and rigid assembly with structural integrity. The range is designed in accordance with DIN, BS and NAAMM standards.

GRATELOK® GL40® CARBON STEEL GRATING is available with serrated load bearing bars for improved skid resistance in especially slippery conditions, or with non-serrated bearer bars for normal conditions.

Bearer bars are 3mm and 4.5mm thick, with depths of 25mm, 30mm, 40mm, and 50mm. Heavy duty bearer bars of 6.0mm wide by 75mm or 100mm deep are available on request.

The standard bearer bar pitch of 43mm provides effective spacing of 38.5mm (British Standard) or 45.5mm. Extended spacing of bearer bars and transverse bars are available on request, viz. GL40® 43/50, GL40® 43/100, GL40® 86/50 and GL40® 86/100.

Standard panels are 2400mm by 1200mm. Special sizes and customizing are available on request.

Finishes include mill (standard), coated (painted or powder coated), bitumenised, and galvanized.

GRATELOK® GL40® CARBON STEEL GRATING offers an economic grating solution for most environments.
# GRATEX CS

## GRATELOK GL40 CARBON STEEL GRATING

### LOAD/Span Tables

<table>
<thead>
<tr>
<th>SIZE CODE</th>
<th>APPROX MASS kg/m²</th>
<th>LOAD C = kg/m</th>
<th>U = kg/m²</th>
<th>BEARER BAR SPAN (mm)</th>
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### IMPORTANT NOTES
1. U, kg/m², maximum allowable unfactored uniformly distributed loading for that stated span
2. C, kg/m, maximum allowable unfactored centre line load per metre
3. Loads determined by maximum deflection of span/200 or 10mm
4. For serrated grating reduce tabulated allowable loads by 10% and maximum span per load category by 3.5%
5. All table loadings to be taken as nominal and should not be used as guaranteed values
6. Appropriate safety factors must be applied by the designer
7. Galvanising will increase stated mass per square metre by approximately 8 – 10%
8. Banding will increase mass by approximately 6% depending on grating

---

*Suggested Range*
GRATEX® SS STAINLESS STEEL GRATING conforms to ISO 9001:2008 standards.

It features inverted "pyramid" transverse bars which are hand assembled with rigid bearer bars, then jig-welded to ensure dimensional stability.

Standard panels are 1200mm x 2400mm. Special sizes and customising (such as cut-outs, shaping, banding and complete structures) are available on request.

GRATEX® SS STAINLESS STEEL GRATING is available in 3CR12, 304 and 316 stainless steel. Finishes include pickled and passivated mill finish and electro-polished.

Two bearer bar designs are offered:

NON-SERRATED: For general purpose use
SERRATED: Offering skid resistance in wet or oily conditions

Standard bearer bar depths are 25mm, 27mm, 30mm, 40mm, 50mm, 60mm, 80mm, 90mm, and 100mm. All are available in 3.0mm and 4.5mm thicknesses. See Load/Span Tables.

GRATEX® SS STAINLESS STEEL GRATING is offered with non-standard bearer bar depths and pitches to suit abnormal load conditions.

With its longevity, high corrosion resistance, low maintenance, strength and rigidity, GRATEX® SS STAINLESS STEEL GRATING promises exceptional life cycle cost performance.
# STAINLESS STEEL GRATING

## Load/Span Tables

**Importance Notes**

1. The kg/m² loadings are the maximum allowable uniformly distributed loadings for that span.
2. The kg loadings are the maximum unfactored centre-line load per meter.
3. The Load/Span tables are based on a maximum tensile stress of 165 MPa and elastic deflections of not more than span/200 or 10mm, whichever is the lesser when subjected to the appropriate unfactored load.
4. All the above to be taken as nominal and should not be used as guaranteed values.

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<tr>
<th>CODE</th>
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<th>THICK DEPTH</th>
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<th>1500</th>
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**Note:**

- The loadings are based on a maximum tensile stress of 165 MPa and elastic deflections of not more than span/200 or 10mm, whichever is the lesser when subjected to the appropriate unfactored load.

- All the above to be taken as nominal and should not be used as guaranteed values.
**GRATEX® FRP - M/P**

**FIBREGLASS GRATING - MOULDED & PULTRUDED**

**GRATEX® FRP** FIBREGLASS GRATING - MOULDED & PULTRUDED is a cost effective, lightweight solution for walkways, platforms, gullies, trenches and mezzanines.

**GRATEX® FRP** FIBREGLASS GRATING - MOULDED & PULTRUDED has a high strength to weight ratio, is corrosion resistant, and is slip resistant. It exhibits low thermal conductivity, is non-magnetic and non-sparking.

Both grating types provide excellent impact and loading characteristics.

**GRATEX® FRP** FIBREGLASS GRATING - MOULDED & PULTRUDED is available in three resin types:

- **Isophthalic Polyester** - moderate exposure to corrosive elements; and a low flame spread rating of 25 or less

- **Vinyl Ester** - for resistance to both acid and alkaline environments; and a flame spread of 25 or less

- **Phenolic** - provides the ultimate fire resistance; designed to withstand prolonged fire exposure without sustaining structural damage.

**GRATEX® FRP** FIBREGLASS GRATING - MOULDED & PULTRUDED is easy to install, requiring only a circular saw, jig saw or angle grinder.

Standard moulded panels are 1220mm x 2440mm and 1220mm x 3660mm. Special sizes and customising are available on request.
**GRATEX® FRP - M/P**

**FIBREGLASS GRATING - MOULDED & PULTRUDED**

**FIXING CLIP**
- FRP L-CLAMP ASSEMBLY
- FRP M-CLAMP ASSEMBLY
- FRP C-CLAMP ASSEMBLY

**MOULDED**

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<td>2240</td>
<td>3466</td>
<td>1519</td>
<td>2140</td>
<td>1193</td>
</tr>
</tbody>
</table>

**IMPORTANT NOTES**
1. U, kg/m², maximum allowable unfactored uniformly distributed loading for that stated span
2. C, kg/m, maximum allowable unfactored centre line load per metre
3. Load/Span Tables based on elastic deflections of span/200 or 10mm, whichever the lesser when subjected to the specified unfactored load
4. All table loadings to be taken as nominal and should not be used as guaranteed values
5. Appropriate safety factors must be applied by the designer

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TRENCH COVERS

Standard Lengths: 500, 1000, 2000, 2500, 3000, 4000, 5000, 6000.
Note: special lengths on request

Materials: Carbon Steel, Stainless Steel (3CR12/304/316)

Finishes: Carbon Steel - Uncoated, Painted, Bitumenised, Galvanised

Stainless Steel - Mill, Pickled and Passivated

- Standard trench covers and frames are matched to ensure ease of installation
- Rigid angle frames provide for accurate form work and a uniform bearing surface
- Frames with cast in lugs (at nominal 300mm centres) protect the trench edges and ensure strong fixing into concrete surrounds
- Trench Covers are fully banded for maximum strength and heavy duty carrying capacity
GRATEX® TC TRENCH COVERS

LOAD/Span Tables

<table>
<thead>
<tr>
<th>TYPE</th>
<th>LOAD kg/m</th>
<th>SPAN mm</th>
<th>APPROX. MASS kg/m²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>200</td>
<td>300</td>
</tr>
<tr>
<td>GTC1 - 30 x 4.5</td>
<td>C</td>
<td>5730</td>
<td>3820</td>
</tr>
<tr>
<td>GTC2 - 40 x 4.5</td>
<td>C</td>
<td>10187</td>
<td>6791</td>
</tr>
<tr>
<td>GTC3 - 50 x 4 (7x5)</td>
<td>I</td>
<td>16333</td>
<td>10886</td>
</tr>
<tr>
<td>GTC4 - 75 x 4 (12x6)</td>
<td>I</td>
<td>47748</td>
<td>31824</td>
</tr>
</tbody>
</table>

1. C, kg/m, maximum allowable unfactored centre line load per metre.
2. Based on allowable tensile stress of 160Mpa and shear stress of 80Mpa.

TYPICAL WHEEL FOOTPRINTS (Approximate: Only actual footprint to be used)

<table>
<thead>
<tr>
<th>CONTACT ZONE (mm)</th>
<th>VEHICLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>150 x 50</td>
<td>Forklift</td>
</tr>
<tr>
<td>120 x 120</td>
<td>Light Motor Vehicle</td>
</tr>
<tr>
<td>200 x 200</td>
<td>Light Delivery Vehicle</td>
</tr>
<tr>
<td>250 x 250</td>
<td>Medium Delivery Vehicle</td>
</tr>
<tr>
<td>250 x 500</td>
<td>Heavy Delivery Vehicle</td>
</tr>
</tbody>
</table>

IMPORTANT NOTES
1. Determine the maximum anticipated wheel load.
2. Apply a load factor appropriate for the duty.
3. Select an applicable wheel footprint.
4. Determine the required trench cover span.
5. Select the appropriate trench cover and frame from the load table, considering the factor for footprint versus centreline load.
STAIRTREADS AND STEPTREADS

MATERIALS       Carbon Steel, Stainless Steel (3CR12/304/316), Composites (FRP)
FINISHES         Carbon Steel - Uncoated, Painted, Bitumenised and Galvanised
                 Stainless Steel - Mill, Pickled and Passivated
TYPES            Carbon Steel - Grating and Solid
                 Stainless Steel - Grating and Solid
                 FRP - Grating and Solid
NOSINGS          Patented Skid-Resistant, Bent embossed Solid Plate
                 Dimple Punched Plate
SIDE PLATES      250mm Long for STAIRTREADS;
                 115mm Long for STEPTREADS
                 3mm and 4.5mm thick plate

| SLOPES FOR CATLADDERS, STEPLADDERS, STAIRWAYS & RAMPS |
|---------------------------------|-----------|----------|
|                                 | MIN°      | MAX°     |
| CATLADDERS                      | 75        | 90       |
| STEPLADDERS                     | 65        | 75       |
| STAIRWAYS                       |           |          |
| Steep                           | 45        | 50       |
| Steep                           | 40        | 45       |
| Gen Purpose                     | 30        | 40       |
| Public Buildings                | 22        | 30       |
| RAMPS                           |           |          |
| Vehicles & Pedestrians          | 0         | 7        |
| Forklifts                       | 0         | 6        |
|                                 | 1:8       | 1:10     |
### TREADEX® STAIRTREADS AND STEPTREADS

#### LOAD/SPAN TABLES

<table>
<thead>
<tr>
<th>Stair Width</th>
<th>Side-plate thickness mm</th>
<th>STAIRTREAD</th>
<th>STEPTREAD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Length</td>
<td>Bearer Bar</td>
</tr>
<tr>
<td>450</td>
<td>3</td>
<td>115</td>
<td>25 x 3.0</td>
</tr>
<tr>
<td>500</td>
<td>3</td>
<td>115</td>
<td>25 x 3.0</td>
</tr>
<tr>
<td>600</td>
<td>3</td>
<td>250</td>
<td>25 x 3.0</td>
</tr>
<tr>
<td>750</td>
<td>3</td>
<td>250</td>
<td>25 x 4.5</td>
</tr>
<tr>
<td>750</td>
<td>4.5</td>
<td>250</td>
<td>30 x 4.5</td>
</tr>
<tr>
<td>900</td>
<td>4.5</td>
<td>250</td>
<td>30 x 4.5</td>
</tr>
<tr>
<td>1000</td>
<td>4.5</td>
<td>250</td>
<td>30 x 4.5</td>
</tr>
<tr>
<td>1200</td>
<td>4.5</td>
<td>250</td>
<td>40 x 4.5</td>
</tr>
</tbody>
</table>

Note: Standard sizes shown. Non-standard sizes are available at client’s discretion.

---

**TREADEX® STAIRTREADS AND STEPTREADS**

**LOAD/SPAN TABLES**

- **STAIRTREAD**
  - Length
  - Bearer Bar
  - Allowable centre load kg
  - Approx Mass kg

- **STEPTREAD**
  - Length
  - Bearer Bar
  - Allowable centre load kg
  - Approx Mass kg

**Note**: Standard sizes shown. Non-standard sizes are available at client’s discretion.
NON-SLIP SOLID FLOOR PLATE

GRATING WORLD FLOOREX® raised pattern non-slip solid floor plate bears the distinctive and registered “boomerang” design, versus the leaf or lozenge patterns of other solid floor plate. In comparative tests, FLOOREX® demonstrated superior co-efficient of friction (skid resistance) over regular checker plate in dry, wet and oily conditions.

FLOOREX® is available in sheet sizes of 1250mm x 3000mm and 1250mm x 2500mm, as well as custom sizes. Nominal thicknesses are 1.6mm, 2.0mm, 2.5mm, 3.0mm, 4.0mm, and 4.5mm.

FLOOREX® is available in Stainless Steel (3CR12, 304, 316) and a range of Aluminium alloys to serve specific applications. Stainless Steel surface finishes are No. 1, 2B, and shot blast.

FLOOREX® advantages are non-slip, strong and rigid, corrosion resistant, easy to clean, low maintenance, eye-catching, and hygienic.

FLOOREX® applications include flooring (factories, loading ramps, elevators, escalator approaches), stair treads, kickplates, and protective fascias.
# COMPARATIVE TEST RESULTS

<table>
<thead>
<tr>
<th>Pattern</th>
<th>Material</th>
<th>Finish</th>
<th>Co-efficient of Friction (μ)</th>
<th>Wellington Boot</th>
<th>Shoe (leather Sole)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dry</td>
<td>Wet</td>
<td>Oiled</td>
</tr>
<tr>
<td>FLOOREX®</td>
<td>3CR12</td>
<td>No 1</td>
<td>0.55</td>
<td>0.49</td>
<td>0.43</td>
</tr>
<tr>
<td>Checker Plate</td>
<td>Mild Steel</td>
<td>Galvanised</td>
<td>0.51</td>
<td>0.36</td>
<td>0.30</td>
</tr>
<tr>
<td>Checker Plate</td>
<td>Mild Steel</td>
<td>Normal</td>
<td>0.49</td>
<td>0.34</td>
<td>0.26</td>
</tr>
<tr>
<td>Std. 5 Rib</td>
<td>Aluminium</td>
<td>Normal</td>
<td>0.43</td>
<td>0.40</td>
<td>0.34</td>
</tr>
</tbody>
</table>

**PROPERTIES**

<table>
<thead>
<tr>
<th></th>
<th>304</th>
<th>316</th>
<th>3CR12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density kg/m³ (approximate)</td>
<td>7900</td>
<td>8000</td>
<td>7700</td>
</tr>
<tr>
<td>Modulus of Elasticity (E) Tensile Gpa</td>
<td>195</td>
<td>195</td>
<td>207</td>
</tr>
<tr>
<td>Thermal Conductivity @ 100°C w/m°C</td>
<td>15.7</td>
<td>14.5</td>
<td>32.0</td>
</tr>
<tr>
<td>Coefficient Thermal Expansion @ 100°C</td>
<td>17.0</td>
<td>16.5</td>
<td>10.0</td>
</tr>
<tr>
<td>Recommended Max Service temp. °C</td>
<td>925</td>
<td>925</td>
<td>600</td>
</tr>
<tr>
<td>Tensile Strength Mpa</td>
<td>485</td>
<td>485</td>
<td>460</td>
</tr>
<tr>
<td>0.2% Proof Strength Mpa</td>
<td>170</td>
<td>170</td>
<td>300</td>
</tr>
<tr>
<td>Elongation % in 50mm</td>
<td>40</td>
<td>40</td>
<td>20</td>
</tr>
<tr>
<td>Hardness, Brinel</td>
<td>200</td>
<td>200</td>
<td>220</td>
</tr>
</tbody>
</table>

**SIZES**

<table>
<thead>
<tr>
<th>Nominal Thickness mm</th>
<th>Overall Height mm</th>
<th>Approx. Mass kg/m²</th>
<th>Std. Size m</th>
<th>Approx. Mass kg/STD size</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0</td>
<td>3.6</td>
<td>16.0</td>
<td>25 x 1.25</td>
<td>50.0</td>
</tr>
<tr>
<td>3.0</td>
<td>4.6</td>
<td>24.0</td>
<td>25 x 1.25</td>
<td>75.0</td>
</tr>
<tr>
<td>4.5</td>
<td>6.1</td>
<td>36.0</td>
<td>25 x 1.25</td>
<td>112.5</td>
</tr>
</tbody>
</table>

**SHEET**

<table>
<thead>
<tr>
<th>Max. Width mm</th>
<th>Max. Length mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>1250</td>
<td>3000</td>
</tr>
<tr>
<td>1250</td>
<td>3000</td>
</tr>
<tr>
<td>1250</td>
<td>3000</td>
</tr>
</tbody>
</table>

**Note:** All figures to be taken as nominal and should not be used as guaranteed values.

Load Tables on request for floor plates supported and securely welded or bolted on all four sides.
The GRATING WORLD RAILEX® handrailing system is available in stainless steel and carbon steel and FRP (Composite). Stainless steel specifications are 32mm handrail tube and stanchions of 38mm tube or 50mm x 50mm angle; carbon steel specifications are 34mm handrail tube and 42mm stanchions.

Tube connectors are available in 90 degree bends, 45 degree bends, and as 90 degree and 45 degree closures (to connect end runs of upper and lower handrails). Also available are wall plate fittings, kink bends, and off-sets.

Ball stanchions are floor (top) mount at 90 degrees (B-TM90) and 45 degrees (B-TM45), side-mount (B-SM90), and goose-neck mount (B-GSM90).

Ball stanchions may be ordered with handrail angles at up to 45 degrees.

Angle stanchions are available in top-mounted and side-mounted versions.

Finishes are:

Stainless Steel: Pickled & Passivated, 180-Grit Polished
Carbon Steel: Mill finished, Painted, Powder coated, Galvanised
FRP: Safety Yellow resin
RAILEX®

HANDRAILING - STAINLESS STEEL

SB-TM90  SB-TM45

SB-SM90  SB-SM45

SB-GSM90

SWAGED JOINTS FOR BENDS AND CLOSURES

WALL PLATE FITTING

KINK BEND

45° BEND

90° BEND

Standard Off-Set 250mm Minimum

OFF-SET (RETURN)

45° CLOSURE

90° CLOSURE

SA-TM90  SA-TM45

SA-SM90  SA-SM45

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**HANDRAILING - CARBON STEEL**

- CB-TM90
- CB-TM45
- CB-SM90
- CB-SM45
- CB-GSM90
- SWAGED JOINTS FOR BENDS AND CLOSURES
- WALL PLATE FITTING
- KINK BEND
- 90° BEND
- 45° BEND
- 45° CLOSURE
- 90° CLOSURE
- Standard Off-Set 250mm Minimum
- OFF-SET (RETURN)

* Carbon Steel Solid Forged stanchions available on request
The GRATING WORLD RAILEX® FRP Handrail System is of 50mm diameter round and 50mm square tube design, using internal fittings for all connections. Joints are bonded and mechanically fastened using either metallic or non-metallic hardware.

RAILEX® FRP Handrails are fabricated from Safety Yellow fiberglass pultrusions using a fire retardant resin with 50% glass content and a surface veil for protection against ultraviolet damage. RAILEX® FRP Handrails have a Class I fire retardance, with an ASTM E-84 flame spread rating of 25 or less.

FRP (Composite) Advantages:
- High Strength
- Lightweight
- Increased Life
- Easily Assembled
- Low Maintenance
- Dimensionally Stable
- Chemical Resistant
- Corrosion Resistant
- R.F. Transparent
- Fire Resistant
- Non-Conductive (Electrical)
- Non-Conductive (Non-Magnetic)

GRATING WORLD RAILEX® standard FRP handrail components are manufactured from general purpose isophthalic polyester resin, with good corrosion resistance.

Available on request are components of fire retardant isophthalic polyester resin with a Class 1 fire retardance, with an ASTM E-84 flame spread rating of 25 or less and low smoke generation. Also available are components of fire retardant vinylester resin. It is highly corrosion resistant and capable of higher surface temperatures.

COMPONENTS AND COMPLETE ACCESS SYSTEMS

GRATING WORLD supplies FRP components and fabricates walkways, stairways, platforms, handrail systems, caged ladders, fixed ladders, and support systems that are specially designed and engineered for corrosive environments according to your specified workloads and configurations. Units are shop assembled and shipped in sections to minimise field installation.

STRUCTURAL SECTIONS

GRATING WORLD also supplies a large range of FRP Structural Sections. Call or email for details.
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