

GRATING

STONGRATE
FIBREGLASS COMPOSITES



ABOUT STONCOR

StonCor companies are the platform operating entities for RPM Performance Coatings, which has its head office in New Jersey, USA. Our platform companies can be found in Africa, the Middle East, India and South America and represent the various brands within RPM.

We pride ourselves in manufacturing, specifying and supplying world class products for a wide variety of construction, repair and specialised rehabilitation projects.

We incorporate our knowledge and expertise with new innovation from our global network of technology partners, to lead in composite gratings and profiles, handrails, structural shapes, protective coatings, resin flooring, bridge expansion joints, roofing, sealants and concrete repair markets.

STONCOR Africa

GRATING PRODUCTS

Stongrate provides turnkey design and fabrication of moulded gratings and fibreglass structures including platforms, cat ladders, stairways, railings and equipment support structures. Our professional engineering and drafting team can help you find the right solution to meet your needs for longevity, safety and cost.



38mm GRP Grating and 44mm Square Tube Hand Railing

MOULDED GRATINGS

Stongrate Fibreglass Composites

Stongrate Fibreglass composites are manufactured in an open, heated mould system. Continuous E-glass roving's are placed in the mould in alternating layers and completely wetted out with resin. This continuous process produces an integral, one piece construction which provides excellent corrosion resistance as well as bi-directional strength. There are a number of different moulds available resulting in an extensive range of panel sizes, thickness and mesh patterns.



| INDUSTRIES | FUNCTIONS | ADVANTAGES |
|-----------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------|
| + Metals and minings | + Anti-slip floor, stair tread, foot bridge | + Fire Retardant |
| + Construction engineering and transportation | + Operation platform, trench cover | + Corrosion resistant |
| + Petrochemical engineering, water engineering and waster water | + Security and safety fence, handrail | + Slip Resistant |
| + Food and beverage | + Off-shore oil rig, moor shipyard, shipping deck and ceiling | + High Strength to Weight Ratio |
| + Oil and gas | + Ramp ladder, scaffold and railway footpath | + Long service life and maintenance free |
| | + Decorative grid, and man-made fountain pool grid | + Non-conductive and Non-magnetic |
| | | + Light weight for easy installation |

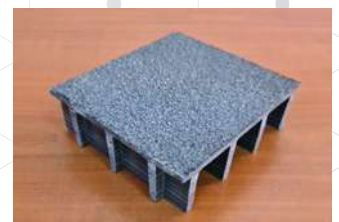
Surfaces



CONCAVE/MINISCUS TOP



GRITTED TOP



GRITTED OR SMOOTH COVERED TOP

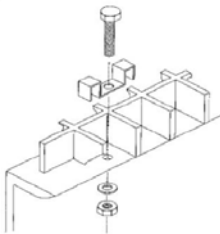
MATERIALS OF CONSTRUCTION

Resin Systems

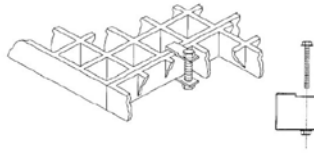
| Resin Type | Resin Base | Description | Corrosion Resistance | Flame Spread Rating ASTM E84 | Colours Available |
|------------|-----------------------------|----------------------------------------------------------|----------------------|------------------------------|-------------------|
| IFR-25 | Isophthalic Polyester Resin | Industrial grade corrosion resistance and fire retardant | Very good | 25 or less | Green, Grey |

Attachment Clip Assembly

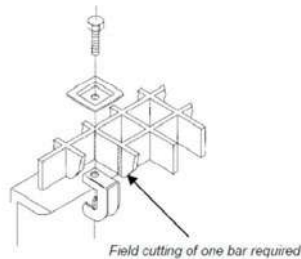
Stongrate offers/provides the specially designed joining and fastening clips required for the GRP Grating. All the attachments and clips are made from 316 Stainless Steel material and are available for the following grating thickness sizes: 25mm, 38mm & 50mm. A minimum of 4 clips are required per piece of grating.



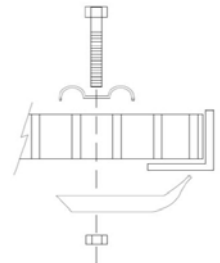
**TYPE M
HOLD DOWN CLIPS**



**TYPE F
END PANEL CLIPS**



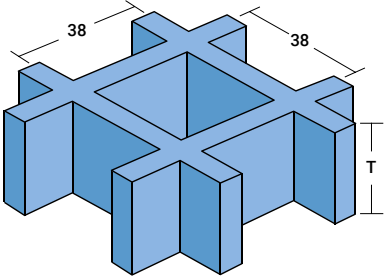
**TYPE G
HOLD DOWN CLIPS**



**TYPE J
HOLD DOWN CLIPS**

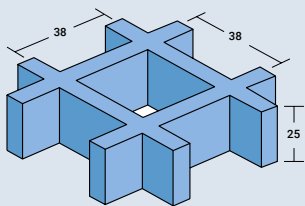


Fibreglass Moulded Grating Technical Details

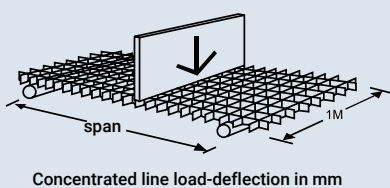
| Legend | Thickness (mm) | Bar thickness (Top/Bottom) | Mesh size (mm) | Panel Size available (mm) | Weight (kg/m ²) | Open Rate (%) |
|-----------------------------------------------------------------------------------|----------------|----------------------------|----------------|--------------------------------------|-----------------------------|---------------|
|  | 25 | 6.5/5.0 | 38x38 | 1220 x 3660 | 12.3 | 68 |
| | 30 | 6.5/5.0 | 38x38 | 1220 x 3660 | 14.6 | 68 |
| | 38 | 7.0/5.0 | 38x38 | 1220 x 3660, 1220 x 2440, 915 x 3050 | 19.5 | 68 |

| Legend | Thickness (mm) | Bar thickness (Top/Bottom) | Mesh size (mm) | Panel Size available (mm) | Weight (kg/m ²) | Open Rate (%) |
|------------------------------------------------------------------------------------|----------------|----------------------------|----------------|---------------------------|-----------------------------|---------------|
|  | 50 | 8.0/6.0 | 50x50 | 3660 x 1220 | 23.7 | 78 |
| | - | - | - | - | - | - |
| | - | - | - | - | - | - |
| | - | - | - | - | - | - |

Load Deflective Tables

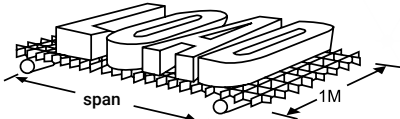


Bar thickness (Top /Bottom): 6.5/5.0
Distance between centers of bearing bars: 38
Open Area: 68%
Weight per square meter: 12.3 kg/m²
Standard panel sizes: 3660 x 1220



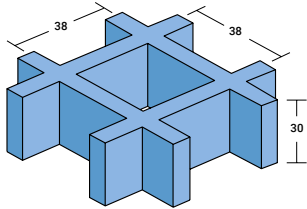
Concentrated line load-deflection in mm

| 38 x 38 x 25 | | | | | | | |
|-------------------------|-------|-------|--------|-------|-------|-------|--------------------|
| Deflection Span (mm) | Kg/m | | | | | | Break Point (kg/m) |
| | 75 | 150 | 300 | 450 | 600 | 750 | |
| 450 | 0.559 | 1.146 | 2.159 | 3.073 | 4.115 | 4.75 | 3910 |
| 600 | 1.16 | 2.32 | 4.64 | 6.97 | 9.29 | 11.62 | 2924 |
| 900 | 3.92 | 7.84 | 12.116 | 18.44 | 19.82 | 20.77 | 1948 |
| 1200 | 9.29 | 18.5 | 15.33 | 23.54 | 25.52 | 27.98 | 1461 |

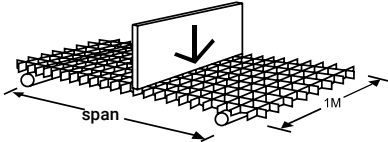


Uniformed load-deflection in mm

| 38 x 38 x 25 | | | | | | | |
|------------------------|-------|--------|--------|--------|--------|--------|------|
| Span (mm) \ Deflection | Kg/m | | | | | | |
| | 240 | 480 | 980 | 1450 | 2450 | 3650 | 4880 |
| 450 | 0.66 | 1.092 | 1.93 | 2.769 | 4.47 | 6.579 | - |
| 600 | 1.118 | 2.108 | 4.14 | 6.172 | 10.244 | 15.265 | - |
| 750 | 2.667 | 5.387 | 10.82 | 16.28 | 21.738 | 29.962 | - |
| 900 | 5.537 | 11.176 | 21.717 | 23.164 | 26.574 | 31.590 | - |

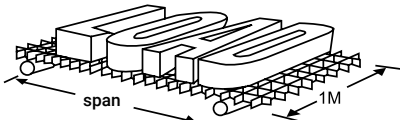


Bar thickness (Top /Bottom): 6.5/5.0
 Distance between centers of bearing bars: 38
 Open Area: 68%
 Weight per square meter: 14.6 kg/m²
 Standard panel sizes: 3660 x 1220



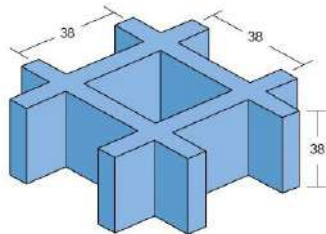
Concentrated line load-deflection in mm

| 38 x 38 x 30 | | | | | | | |
|------------------------|--------|--------|-------|-------|--------|-------|--------------------|
| Span (mm) \ Deflection | Kg/m | | | | | | Break Point (kg/m) |
| | 75 | 150 | 300 | 450 | 750 | 1500 | |
| 300 | <0.254 | <0.254 | 0.254 | 0.508 | 0.762 | 1.524 | 9923.4 |
| 450 | 0.254 | 0.508 | 1.016 | 1.524 | 2.54 | 3.92 | 4827.6 |
| 600 | 0.508 | 1.27 | 2.286 | 3.556 | 5.842 | 7.38 | 4112.4 |
| 750 | 1.27 | 2.54 | 4.826 | 7.366 | 12.446 | 15.98 | 3173.7 |
| 900 | 2.27 | 4.54 | 9.08 | 13.63 | 18.72 | 22.05 | 2637.3 |

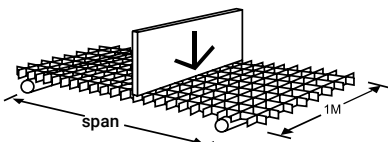


Uniformed load-deflection in mm

| 38 x 38 x 30 | | | | | | |
|------------------------|------|------|-------|-------|-------|-------|
| Span (mm) \ Deflection | Kg/m | | | | | |
| | 350 | 500 | 750 | 1000 | 1500 | 2500 |
| 300 | 0.29 | 0.48 | 0.57 | 0.75 | 1.15 | 1.82 |
| 450 | 0.78 | 1.19 | 1.81 | 2.47 | 3.54 | 4.95 |
| 600 | 0.76 | 2.66 | 4.28 | 5.56 | 8.41 | 13.19 |
| 750 | 3.48 | 5.12 | 8.21 | 10.95 | 16.42 | - |
| 900 | 5.89 | 8.81 | 14.15 | 18.92 | - | - |

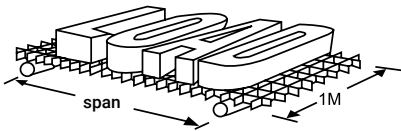


Bar thickness (Top /Bottom): 7.0/5.0
 Distance between centers of bearing bars: 38
 Open Area: 68%
 Weight per square meter: 19.5 kg/m²
 Standard panel sizes: 3660 x 1220, 2440 x 1220, 3050 x 915



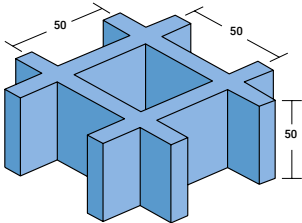
Concentrated line load-deflection in mm

| 38 x 38 x 38 | | | | | | | |
|------------------------|-------|-------|-------|--------|-------|-------|--------------------|
| Span (mm) \ Deflection | | | | | | | Break Point (kg/m) |
| | 150 | 300 | 450 | 600 | 750 | 1500 | |
| 300 | 0.356 | 0.483 | 0.61 | 0.762 | 0.889 | 1.06 | 17116 |
| 600 | 0.66 | 1.245 | 1.85 | 2.464 | 3.073 | 8.48 | 8718 |
| 900 | 1.803 | 3.683 | 5.563 | 7.417 | 9.296 | 13.79 | 5817 |
| 1200 | 4.749 | 9.677 | 14.63 | 19.583 | 21.19 | - | 3755 |

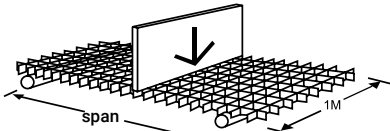


Uniformed load-deflection in mm

| 38 x 38 x 38 | | | | | | | |
|-------------------------|-------|--------|--------|--------|--------|-------|------|
| Deflection Span (mm) | Kg/m | | | | | | |
| | 240 | 480 | 980 | 1450 | 2450 | 3650 | 4880 |
| 300 | 0.09 | 0.19 | 0.38 | 0.49 | 0.78 | 1.05 | - |
| 600 | 0.432 | 0.813 | 1.549 | 2.311 | 3.8354 | 5.74 | - |
| 900 | 1.702 | 3.454 | 6.959 | 10.465 | 17.475 | 23.25 | - |
| 1200 | 5.969 | 12.167 | 24.511 | 32.58 | 38.65 | - | - |

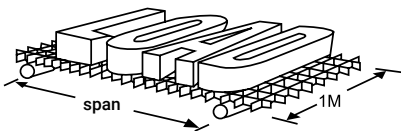


Bar thickness (Top /Bottom): 8.0/6.0
 Distance between centers of bearing bars: 50
 Open Area: 78%
 Weight per square meter: 23.7 kg/m²
 Standard panel sizes: 3660 x 1220



Concentrated line load-deflection in mm

| 50 x 50 x 50 | | | | | | | |
|-------------------------|-------|-------|-------|-------|-------|-------|--------------------|
| Deflection Span (mm) | Kg/m | | | | | | Break Point (kg/m) |
| | 150 | 300 | 450 | 600 | 750 | 1500 | |
| 300 | 0.305 | 0.406 | 0.483 | 0.635 | 1.041 | 1.45 | 21727 |
| 600 | 0.508 | 0.813 | 1.128 | 1.753 | 3.327 | 4.27 | 11713 |
| 900 | 1.118 | 2.235 | 3.2 | 5.156 | 6.58 | 13.46 | 7780 |
| 1200 | 1.33 | 2.61 | 5.98 | 9.95 | 11.92 | - | 5834 |



Uniformed load-deflection in mm

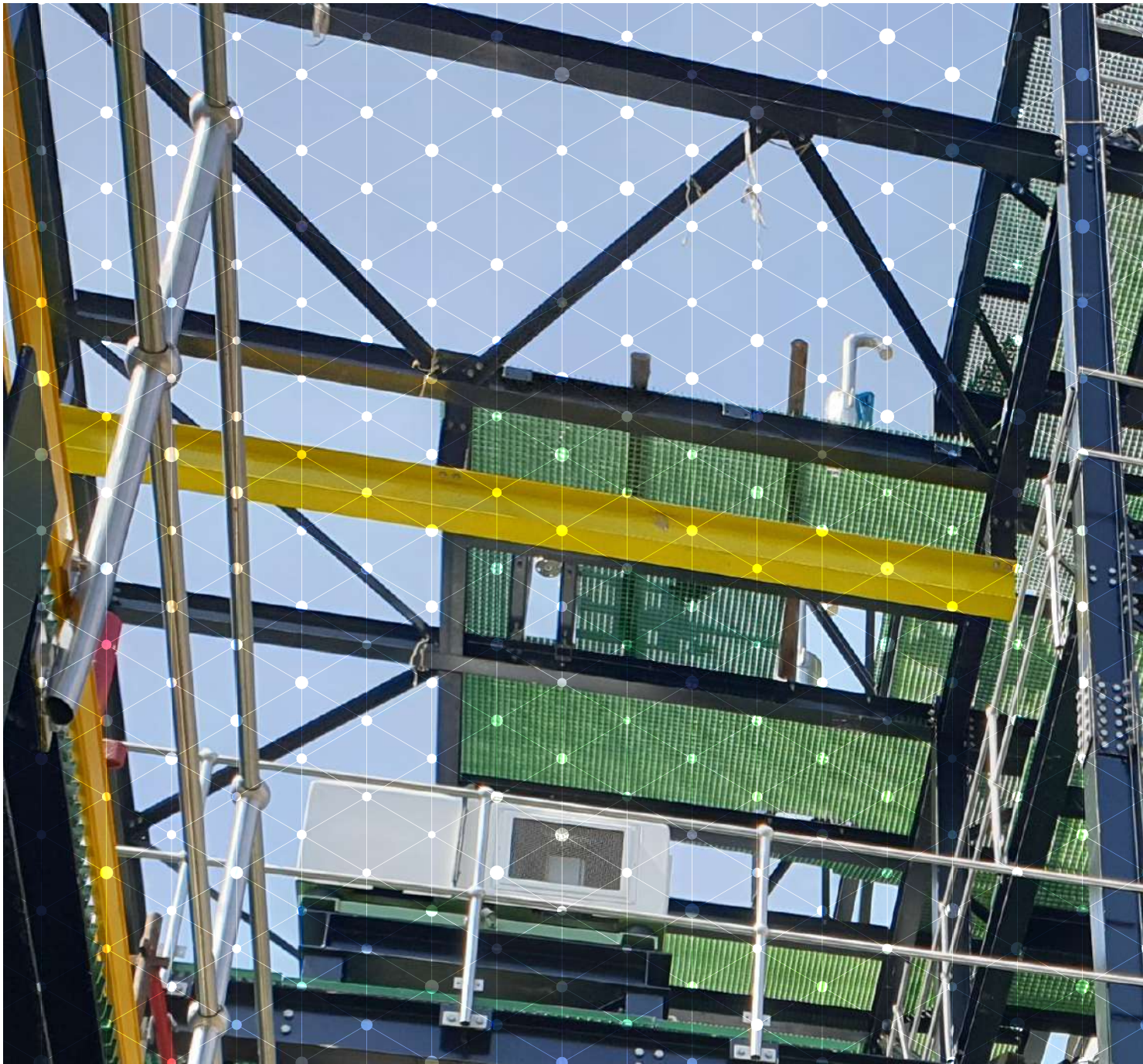
| 50 x 50 x 50 | | | | | | | |
|-------------------------|-------|-------|-------|--------|--------|--------|------|
| Deflection Span (mm) | Kg/m | | | | | | |
| | 240 | 480 | 980 | 1450 | 2450 | 3650 | 4880 |
| 300 | 0.254 | 0.279 | 0.33 | 0.381 | 0.483 | 0.737 | - |
| 600 | 0.381 | 0.584 | 0.965 | 1.372 | 2.134 | 4.115 | - |
| 900 | 1.194 | 2.108 | 3.937 | 5.766 | 9.449 | 18.593 | - |
| 1200 | 2.413 | 4.928 | 9.957 | 14.961 | 16.810 | 21.575 | - |



Chemical Resistance Chart Of Molded Gratings

| Chemical | Maximum Operating Temperature | |
|----------------------|-------------------------------|----------|
| | %Conc. | IFR - 25 |
| Hydrochloric acid | 30 | 65 |
| Nitric acid | 35 | N/R |
| Sulphuric acid | 25 | 65 |
| Hydrofluoric acid | 10 | N/R |
| Lactic acid | 100 | 65 |
| Hypochlorous acid | SAT | N/R |
| Citric acid | ALL | N/R |
| Potassium hydroxide | 10 | N/R |
| Sodium hydroxide | 10 | N/R |
| Calcium hydroxide | 25 | 65 |
| Calcium hypochloride | 25 | 65 |
| Ferric chloride | 100 | 65 |
| Aluminium chloride | ALL | 65 |
| Mercuric chloride | 100 | 65 |
| Silver nitrate | 100 | 65 |
| Sodium salt | ALL | N/R |
| Zinc chloride | ALL | 24 |
| Acetone | 100 | N/R |
| Chloroform | 100 | N/R |
| Fuel | ALL | 38 |
| Nantokite | ALL | 65 |
| Phenols | 10 | N/R |
| Ozone | ALL | 38 |
| Bleaching liquid | ALL | N/R |
| Ammonium hydroxide | 30 | N/R |
| Ammonium salt | ALL | N/R |
| Black sewage | ALL | N/R |
| Cupric oxide | ALL | 52 |
| Glycol | 100 | 65 |
| Sulfur dioxide | SAT | 65 |
| Sodium phosphate | 50 | N/R |
| Water | 100 | 65 |
| Alum | ALL | 65 |
| Chlorine water | SAT | N/R |

ALL-concentrations; SAT-saturated solution; N/R- not recommended; ...-no information available



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