# PROGrate® Pultruded Grating

PROGrate® pultruded grating supports heavier loads and longer spans than comparably sized molded grating. It's ideal for demanding applications ranging from ADA-compliant walkways to heavy-duty vehicular traffic.

### Strong, Lightweight and Corrosion-Resistant
PROGrate® pultruded grating has the strength of steel, but it won't corrode like steel can.

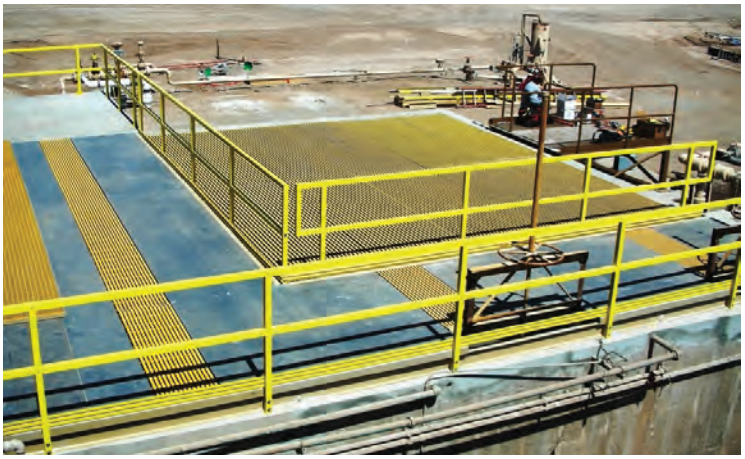
### Safer Walking Surface
A quartz grit anti-slip epoxy coating enhances traction.

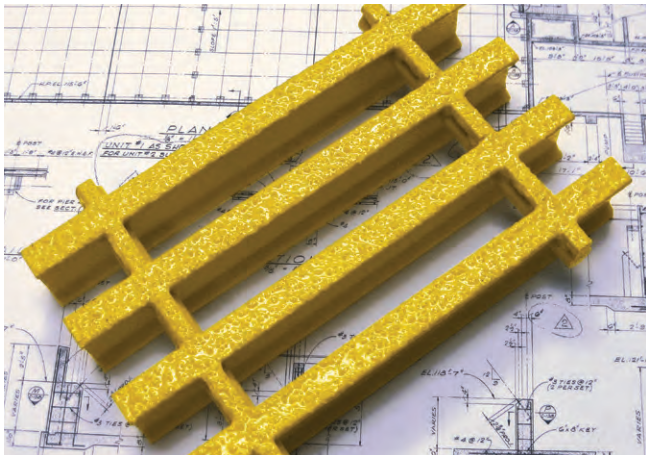
### Support and Stability
Cross-rods and bearing bars lock mechanically for maximum unidirectional strength.

### Easy Fabrication
Panels are lightweight, easy to transport, and can be cut and fabricated using standard hand tools.

### Extended Life
The coated resin surface increases resistance to chemical corrosion and continuous UV exposure.

### Stress Resistance
Continuous glass rovings resist tension, compression and bending while providing longitudinal strength. Continuous glass mat increases transverse strength and resistance to impact.



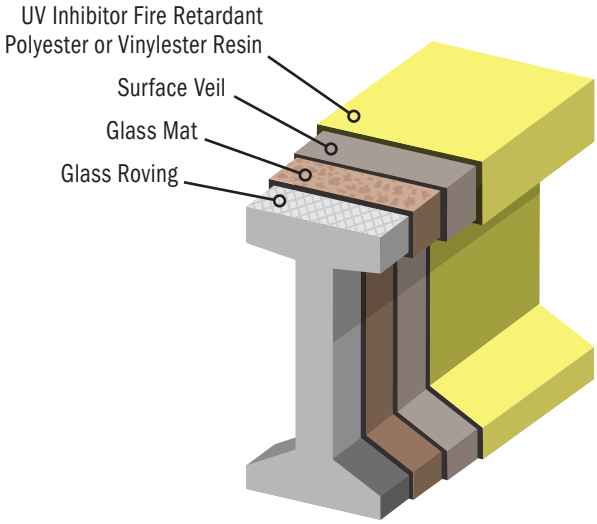


## Available Resin Systems

PROGrate® pultruded grating is available in two resin systems, each providing different levels of corrosion protection. Both resin systems meet Class 1 Flame Spread Rating per ASTM E-84 test standards.

**IFR:** A premium-grade isophthalic polyester resin system that provides excellent corrosion protection. Standard colors: Yellow and Gray.

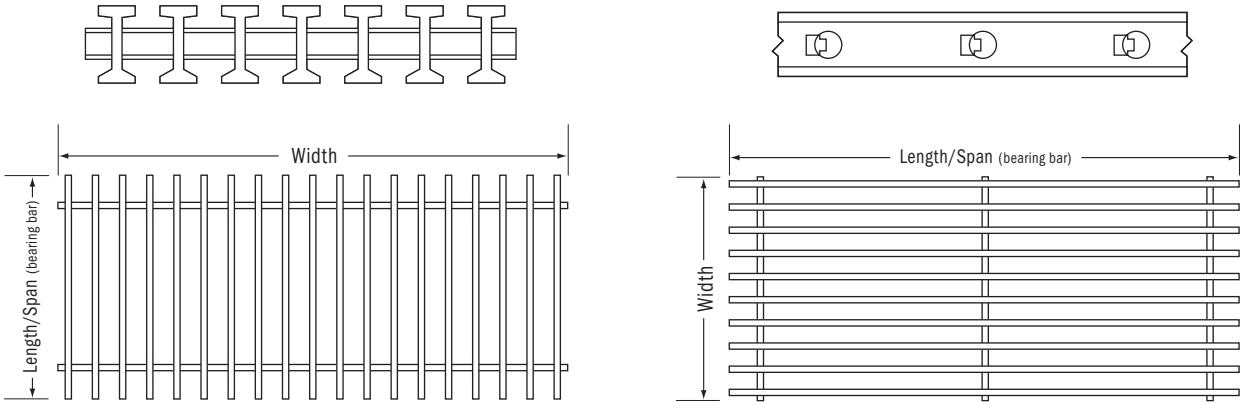
**VFR:** A vinylester resin system that provides the highest level of corrosion protection. Standard colors: Yellow and Gray.




### APPLICATIONS

- Floor systems
- Walkways
- Work platforms
- Stairs
- Ramps
- Trench covers
- Catwalks

## Standard Dimensions

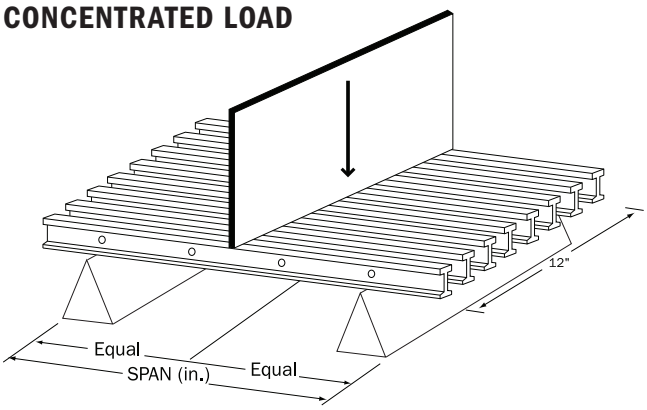



| Available Panel Sizes* | |
|---|---|
| 3' wide x 20' long | 4' wide x 20' long |
| 3' wide x 24' long | 4' wide x 24' long |

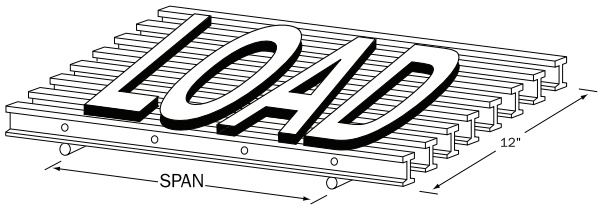
*Note: Not all panel sizes are stocked in every resin series and color. Check website for availability.

# PROGrate® Pultruded Grating Load and Deflection Data

## CONCENTRATED LOAD




## UNIFORM LOAD




1. The following tables were developed in accordance with the test method developed by the Fiberglass Grating Manufacturers Council (FGMC) of the American Composites Manufacturers Association (ACMA) for the Fiberglass Grating Standard.
2. The designer should not exceed MAXIMUM RECOMMENDED load at any time. ULTIMATE CAPACITY represents MAX LOAD observed at initial fracture.
3. Walking loads for maintenance traffic are typically a live load of 50 PSF. Deflections for worker comfort are typically limited to 0.375" (3⁄8") or SPAN divided by 120 under full live load. For a firmer feel under full live load or a line load 250 lb/ft of width, limit deflections to 0.25" (¼") or SPAN divided by 200.
4. The loads represented are for STATIC LOAD CONDITIONS at ambient temperature. Deflections for impact loads or dynamic loads will MULTIPLY the deflections shown by 2. Long term loads will result in added deflection due to creep in the material and will require higher factors of safety to ensure acceptable performance.
5 Deflections are limited to 0.5" (½") as recommended by the Fiberglass Grating Manufacturers Council of the American Composites Manufacturers Association.

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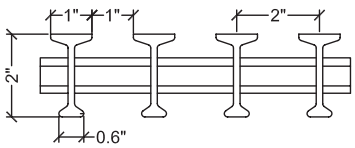
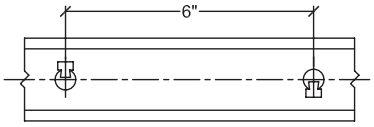
**T 20-50**
**T Bearing Bar**
**2" Thick**
**50% Open**



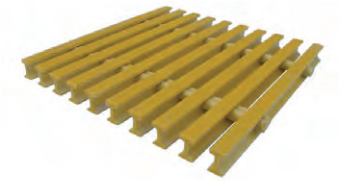



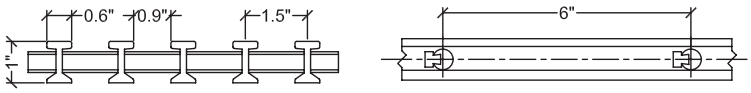

| Span (inches) | CONCENTRATED LOAD in lb/ft of width | | | | | | | | Max Load (lb/ft) | Apparent EI x $10^6$ (lb-in$^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| | 50 | 100 | 150 | 200 | 250 | 500 | 1000 | 2000 | | |
| 12 | 0.001 | 0.002 | 0.003 | 0.004 | 0.005 | 0.010 | 0.020 | 0.040 | 13302 | 1.80 |
| 18 | 0.001 | 0.003 | 0.004 | 0.006 | 0.007 | 0.015 | 0.029 | 0.059 | 8868 | 4.15 |
| 24 | 0.002 | 0.005 | 0.007 | 0.009 | 0.012 | 0.023 | 0.047 | 0.093 | 6651 | 6.17 |
| 30 | 0.004 | 0.008 | 0.011 | 0.015 | 0.019 | 0.038 | 0.077 | 0.153 | 5321 | 7.35 |
| 36 | 0.006 | 0.012 | 0.018 | 0.024 | 0.031 | 0.061 | 0.122 | 0.245 | 4434 | 7.95 |
| 42 | 0.009 | 0.019 | 0.028 | 0.037 | 0.046 | 0.093 | 0.186 | 0.372 | 3801 | 8.31 |
| 48 | 0.013 | 0.027 | 0.040 | 0.054 | 0.067 | 0.135 | 0.269 | 0.539 | 3326 | 8.55 |
| 54 | 0.019 | 0.038 | 0.057 | 0.076 | 0.095 | 0.190 | 0.379 | | 2956 | 8.65 |
| 60 | 0.026 | 0.051 | 0.077 | 0.103 | 0.129 | 0.257 | 0.514 | | 2660 | 8.75 |
| 66 | 0.034 | 0.068 | 0.102 | 0.136 | 0.171 | 0.341 | 0.682 | | 2419 | 8.78 |
| 72 | 0.044 | 0.088 | 0.133 | 0.177 | 0.221 | 0.442 | | | 2217 | 8.80 |

| Span (inches) | UNIFORM LOAD in lb/ft$^2$ | | | | | | | | Max Load (lb/ft$^2$) | Apparent EI x $10^6$ (lb-in$^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| | 50 | 100 | 150 | 200 | 250 | 500 | 1000 | 2000 | | |
| 12 | 0.001 | 0.001 | 0.002 | 0.002 | 0.003 | 0.006 | 0.012 | 0.025 | 23936 | 1.80 |
| 18 | 0.001 | 0.003 | 0.004 | 0.005 | 0.007 | 0.014 | 0.027 | 0.055 | 8624 | 4.15 |
| 24 | 0.003 | 0.006 | 0.009 | 0.012 | 0.015 | 0.029 | 0.058 | 0.117 | 6468 | 6.17 |
| 30 | 0.006 | 0.012 | 0.180 | 0.024 | 0.030 | 0.060 | 0.120 | 0.239 | 4242 | 7.35 |
| 36 | 0.011 | 0.023 | 0.034 | 0.046 | 0.057 | 0.115 | 0.229 | 0.458 | 2946 | 7.95 |
| 42 | 0.020 | 0.041 | 0.061 | 0.081 | 0.102 | 0.203 | 0.407 | | 2153 | 8.31 |
| 48 | 0.034 | 0.067 | 0.101 | 0.135 | 0.168 | 0.337 | 0.674 | | 1672 | 8.55 |
| 54 | 0.053 | 0.107 | 0.160 | 0.213 | 0.267 | 0.533 | | | 1310 | 8.65 |
| 60 | 0.080 | 0.161 | 0.241 | 0.321 | 0.402 | | | | 1062 | 8.75 |
| 66 | 0.117 | 0.234 | 0.352 | 0.469 | 0.586 | | | | 881 | 8.78 |
| 72 | 0.166 | 0.331 | 0.497 | 0.663 | | | | | 740 | 8.80 |

| Properties Per Foot of Width | # of Bars | Load Bar Depth | Bar Centers | Weight/sq ft |
|---|---|---|---|---|
| A = 3.23 in$^2$ I = 1.58 in$^4$ $S_T$ = 1.98 in$^3$ $S_B$ = 1.32 in$^3$ | 6 | 2" | 2" | 3.43 |

## I 10-60
## I Bearing Bar
## 1" Thick
## 60% Open



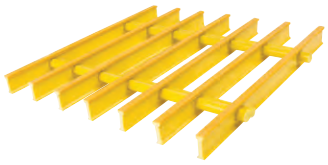


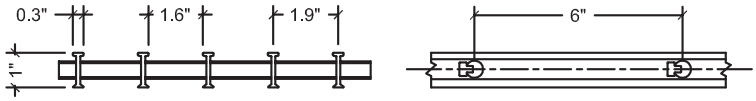

| Span (inches) | CONCENTRATED LOAD in lb/ft of width | | | | | | | | Max Load (lb/ft) | Apparent EI x $10^6$ (lb-in²) |
|---|---|---|---|---|---|---|---|---|---|---|
| | 50 | 100 | 150 | 200 | 250 | 500 | 1000 | 2000 | | |
| 12 | 0.002 | 0.003 | 0.005 | 0.007 | 0.008 | 0.016 | 0.033 | 0.065 | 5755 | 1.10 |
| 18 | 0.004 | 0.009 | 0.013 | 0.018 | 0.022 | 0.044 | 0.088 | 0.176 | 3850 | 1.38 |
| 24 | 0.009 | 0.019 | 0.028 | 0.037 | 0.047 | 0.094 | 0.187 | 0.374 | 2888 | 1.54 |
| 30 | 0.017 | 0.035 | 0.052 | 0.069 | 0.086 | 0.173 | 0.345 | 0.690 | 2310 | 1.63 |
| 36 | 0.029 | 0.059 | 0.088 | 0.117 | 0.146 | 0.293 | 0.586 | | 1925 | 1.66 |
| 42 | 0.046 | 0.092 | 0.138 | 0.184 | 0.230 | 0.459 | | | 1650 | 1.68 |
| 48 | 0.068 | 0.136 | 0.203 | 0.271 | 0.339 | 0.678 | | | 1444 | 1.70 |
| 54 | 0.095 | 0.191 | 0.286 | 0.381 | 0.477 | | | | 1283 | 1.72 |
| 60 | 0.129 | 0.259 | 0.388 | 0.517 | 0.647 | | | | 1155 | 1.74 |
| 66 | 0.171 | 0.342 | 0.513 | 0.685 | | | | | 1050 | 1.75 |
| 72 | 0.221 | 0.442 | 0.663 | | | | | | 962 | 1.76 |

| Span (inches) | UNIFORM LOAD in lb/ft² | | | | | | | | Max Load (lb/ft²) | Apparent EI x $10^6$ (lb-in²) |
|---|---|---|---|---|---|---|---|---|---|---|
| | 50 | 100 | 150 | 200 | 250 | 500 | 1000 | 2000 | | |
| 12 | 0.001 | 0.002 | 0.003 | 0.004 | 0.005 | 0.010 | 0.020 | 0.041 | 7944 | 1.10 |
| 18 | 0.004 | 0.008 | 0.012 | 0.017 | 0.021 | 0.041 | 0.083 | 0.165 | 5296 | 1.38 |
| 24 | 0.012 | 0.023 | 0.035 | 0.047 | 0.058 | 0.117 | 0.234 | 0.468 | 2935 | 1.54 |
| 30 | 0.027 | 0.054 | 0.081 | 0.108 | 0.135 | 0.270 | 0.539 | | 1845 | 1.63 |
| 36 | 0.055 | 0.110 | 0.165 | 0.220 | 0.274 | 0.549 | | | 1281 | 1.66 |
| 42 | 0.100 | 0.201 | 0.301 | 0.402 | 0.502 | | | | 943 | 1.68 |
| 48 | 0.169 | 0.339 | 0.508 | 0.678 | | | | | 721 | 1.70 |
| 54 | 0.268 | 0.536 | | | | | | | 571 | 1.72 |
| 60 | 0.404 | | | | | | | | 514 | 1.74 |

| Properties Per Foot of Width | # of Bars | Load Bar Depth | Bar Centers | Weight/sq ft |
|---|---|---|---|---|
| A = 2.44 in² I = 0.31 in⁴ S = 0.62 in³ | 8 | 1" | 1.5" | 2.47 |

## I 10-83
## I Bearing Bar
## 1" Thick
## 83% Open



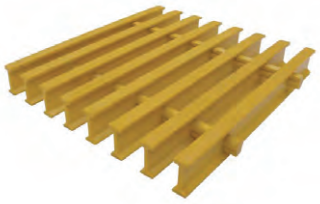


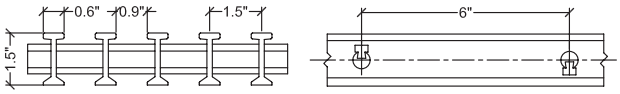

| Span (inches) | CONCENTRATED LOAD in lb/ft of width | | | | | | Max Load (lb/ft) | Apparent EI x $10^6$ (lb-in²) |
|---|---|---|---|---|---|---|---|---|
| | 50 | 100 | 200 | 500 | 750 | 1000 | | |
| 12 | 0.0065 | 0.013 | 0.026 | 0.065 | 0.098 | 0.130 | 1812 | 2.31 |
| 18 | 0.013 | 0.026 | 0.052 | 0.130 | 0.195 | 0.260 | 1208 | 3.89 |
| 24 | 0.029 | 0.058 | 0.116 | 0.290 | 0.435 | | 906 | 4.14 |
| 30 | 0.056 | 0.112 | 0.224 | 0.560 | | | 725 | 4.19 |
| 36 | 0.099 | 0.198 | 0.396 | | | | 604 | 4.09 |
| 42 | 0.155 | 0.310 | 0.620 | | | | 518 | 4.15 |
| 48 | 0.225 | 0.450 | 0.900 | | | | 453 | 4.27 |
| 54 | 0.317 | 0.634 | | | | | 403 | 4.31 |
| 60 | 0.408 | 0.816 | | | | | 362 | 4.60 |

| Span (inches) | UNIFORM LOAD in lb/ft² | | | | | | Max Load (lb/ft²) | Apparent EI x $10^6$ (lb-in²) |
|---|---|---|---|---|---|---|---|---|
| | 50 | 100 | 200 | 500 | 750 | 1000 | | |
| 12 | 0.003 | 0.006 | 0.010 | 0.013 | 0.016 | 0.032 | 3841 | 2.31 |
| 18 | 0.011 | 0.022 | 0.033 | 0.044 | 0.055 | 0.110 | 2560 | 3.89 |
| 24 | 0.031 | 0.061 | 0.092 | 0.123 | 0.153 | 0.307 | 1920 | 4.14 |
| 30 | 0.056 | 0.111 | 0.167 | 0.222 | 0.278 | 0.555 | 1536 | 4.19 |
| 36 | 0.163 | 0.326 | 0.488 | 0.651 | 0.814 | | 1280 | 4.09 |
| 42 | 0.303 | 0.606 | 0.909 | | | | 1097 | 4.15 |
| 48 | 0.519 | | | | | | 960 | 4.27 |
| 54 | 0.867 | | | | | | 853 | 4.31 |
| 60 | 1.509 | | | | | | 768 | 4.60 |

| Properties Per Foot of Width | # of Bars | Load Bar Depth | Bar Centers | Weight/sq ft |
|---|---|---|---|---|
| A = 1.19 in² I = 0.12 in⁴ S = 0.24 in³ | 6 | 1 | 1.9" | 2 |

## I 15-60
## I Bearing Bar
## 1½" Thick
## 60% Open






| Span (inches) | CONCENTRATED LOAD in lb/ft of width | | | | | | | | Max Load (lb/ft) | Apparent EI x $10^6$ (lb-in²) |
|---|---|---|---|---|---|---|---|---|---|---|
| | 50 | 100 | 150 | 200 | 250 | 500 | 1000 | 2000 | | |
| 12 | 0.001 | 0.002 | 0.003 | 0.004 | 0.005 | 0.009 | 0.018 | 0.036 | 8958 | 1.99 |
| 18 | 0.002 | 0.004 | 0.006 | 0.008 | 0.009 | 0.019 | 0.038 | 0.075 | 5972 | 3.23 |
| 24 | 0.004 | 0.007 | 0.011 | 0.015 | 0.018 | 0.037 | 0.074 | 0.147 | 4479 | 3.91 |
| 30 | 0.007 | 0.013 | 0.020 | 0.027 | 0.033 | 0.066 | 0.133 | 0.265 | 3853 | 4.24 |
| 36 | 0.011 | 0.022 | 0.033 | 0.044 | 0.055 | 0.110 | 0.220 | 0.441 | 2986 | 4.41 |
| 42 | 0.017 | 0.035 | 0.052 | 0.069 | 0.086 | 0.173 | 0.345 | 0.691 | 2559 | 4.47 |
| 48 | 0.026 | 0.051 | 0.077 | 0.102 | 0.128 | 0.255 | 0.511 | | 2240 | 4.51 |
| 54 | 0.036 | 0.073 | 0.109 | 0.145 | 0.181 | 0.363 | | | 1991 | 4.52 |
| 60 | 0.050 | 0.099 | 0.149 | 0.198 | 0.248 | 0.496 | | | 1792 | 4.54 |
| 66 | 0.066 | 0.132 | 0.197 | 0.263 | 0.329 | 0.658 | | | 1629 | 4.55 |
| 72 | 0.085 | 0.171 | 0.256 | 0.341 | 0.427 | | | | 1493 | 4.56 |

| Span (inches) | UNIFORM LOAD in lb/ft² | | | | | | | | Max Load (lb/ft²) | Apparent EI x $10^6$ (lb-in²) |
|---|---|---|---|---|---|---|---|---|---|---|
| | 50 | 100 | 150 | 200 | 250 | 500 | 1000 | 2000 | | |
| 12 | 0.001 | 0.001 | 0.002 | 0.002 | 0.003 | 0.006 | 0.011 | 0.023 | 10524 | 1.99 |
| 18 | 0.002 | 0.004 | 0.005 | 0.007 | 0.009 | 0.018 | 0.035 | 0.070 | 7016 | 3.23 |
| 24 | 0.005 | 0.009 | 0.014 | 0.018 | 0.023 | 0.046 | 0.092 | 0.184 | 4585 | 3.91 |
| 30 | 0.010 | 0.021 | 0.031 | 0.041 | 0.052 | 0.104 | 0.207 | 0.415 | 2831 | 4.24 |
| 36 | 0.021 | 0.041 | 0.062 | 0.083 | 0.103 | 0.207 | 0.413 | | 2006 | 4.41 |
| 42 | 0.038 | 0.076 | 0.113 | 0.151 | 0.189 | 0.378 | | | 1454 | 4.47 |
| 48 | 0.064 | 0.128 | 0.192 | 0.255 | 0.319 | 0.639 | | | 1117 | 4.51 |
| 54 | 0.102 | 0.204 | 0.306 | 0.408 | 0.510 | | | | 885 | 4.52 |
| 60 | 0.155 | 0.310 | 0.465 | 0.620 | | | | | 717 | 4.54 |
| 66 | 0.226 | 0.453 | 0.679 | | | | | | 592 | 4.55 |
| 72 | 0.320 | 0.640 | | | | | | | 498 | 4.56 |

| Properties Per Foot of Width | # of Bars | Load Bar Depth | Bar Centers | Weight/sq ft |
|---|---|---|---|---|
| A = 3.11 in² I = 0.88 in⁴ S = 1.17 in³ | 8 | 1.5" | 1.5" | 2.97 |