

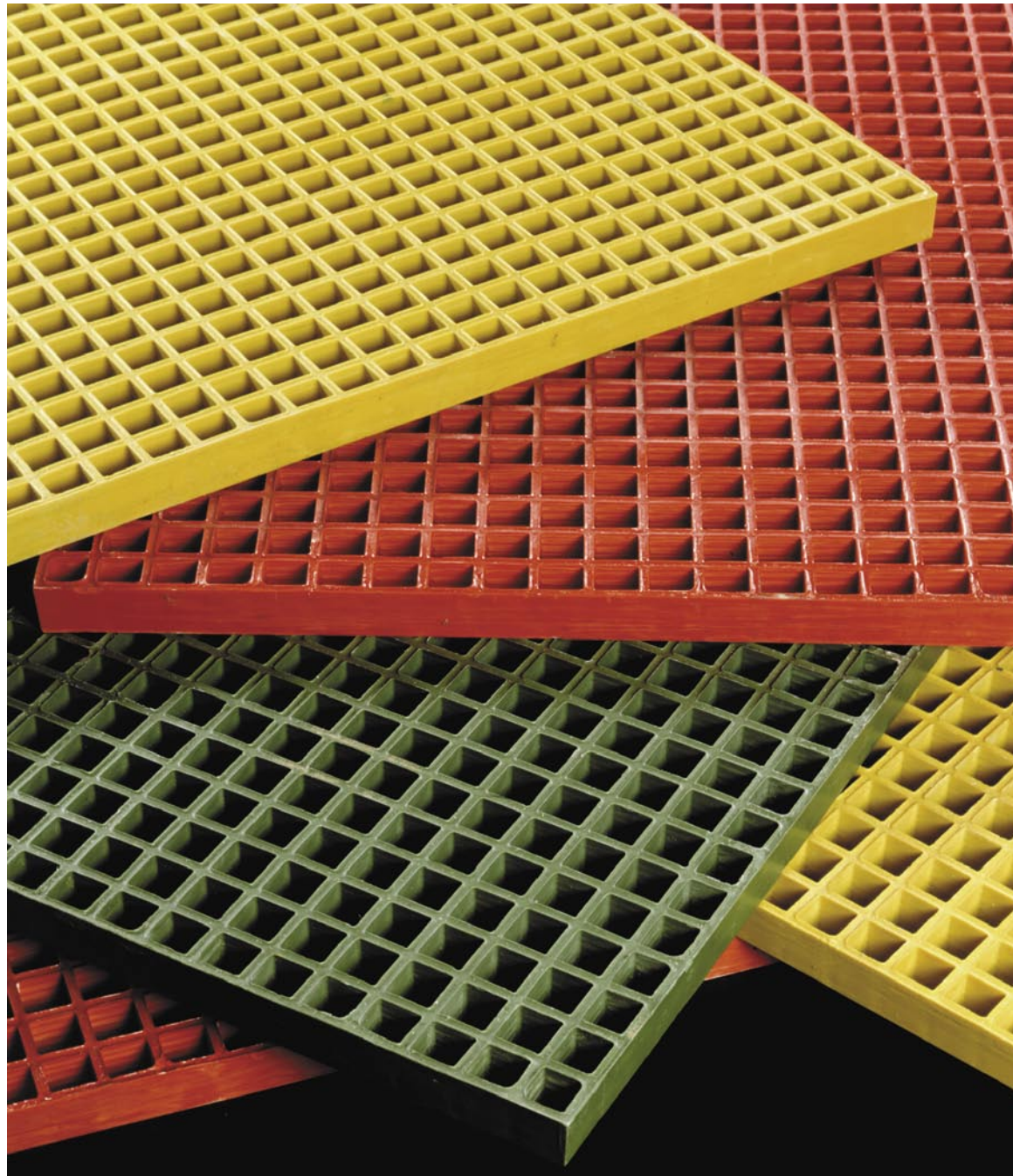
GEF Incorporated

GEF Incorporated



**DURACRATE<sup>®</sup>**

**MOLDED FIBERGLASS GRATING**



6497 Winfield Road

Winfield, WV 25213

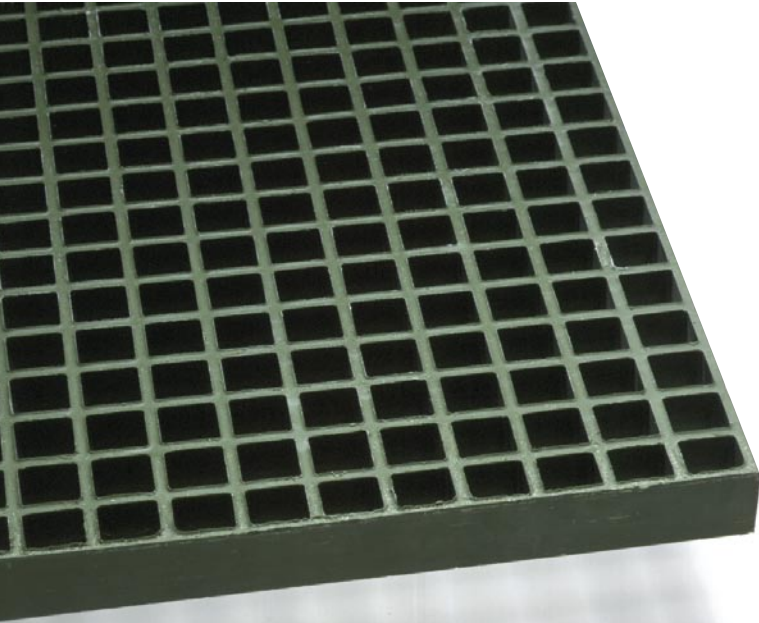
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# Molded Fiberglass Grating



## What is DURAGRATE®?

DURAGRATE® molded fiberglass grating is a strong mesh grating panel that is the chemical resistant flooring choice for many industrial applications. DURAGRATE® panels are molded in one piece and feature a concave non-slip walking surface. The cost-effective panels allow for efficient on-site cutting to minimize grating waste and load bearing bars in both directions allow for use without continuous side support.

DURAGRATE® molded fiberglass grating is significantly lighter in weight than metallic gratings and the high resin content (65%) provides long, virtually maintenance-free performance. A higher safety factor is achieved by designing in a higher glass content at the bottom of the grating for greater tensile strength.

DURAGRATE® molded fiberglass grating is:

- Corrosion Resistant
- Fire Retardant
- Low in Maintenance
- Lightweight
- Easy To Install
- Uniform in Appearance
- Easy To Fabricate
- Impact Resistant
- Low in Conductivity
- Bidirectional Load Bearing
- Cost Effective

## Materials of Construction

DURAGRATE® molded fiberglass grating is composed of fiberglass rovings combined with a choice of five thermosetting resin systems.

Standard DURAGRATE® grating has a concave profile on the upper surface for skid resistance. Grit tops are available upon request.

## Standard Resin Systems Available\*

Resin Code	Description	Resin Base	Corrosion Resistance	Flame Spread Rating**
VE	Chemical Proof Fire Retardant	Vinyl Ester	Excellent	Class 1 25 or less
XVE	Chemical Proof Fire Retardant	Vinyl Ester	Excellent	Class 1 10 or less
PP	Industrial Grade Fire Retardant	Isophthalic	Very Good	Class 1 25 or less
GP	Architectural Grade Fire Retardant	Orthophthalic	Good	Class 1 25 or less
FF	Food Grade Fire Retardant	Isophthalic	Very Good	Class 2 30 or less

\*Strongwell's Standard Colors are Dark Gray, Green, Yellow, Orange and Light Gray. Contact Customer Service for Resin System and Color Requirements. Custom Colors are Available upon Request.

\*\* Flame Spread Rating per ASTM E-84 Tunnel Test

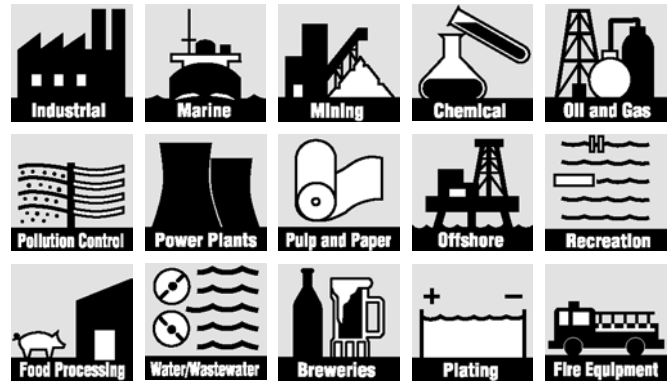


The Exide Battery Plant in Manchester, Iowa installed corrosion resistant DURAGRATE® around its tanks of sulfuric acid.





# Technical Data



## Shapes, Sizes and Availability

### Typical DURAGRATE® Panels

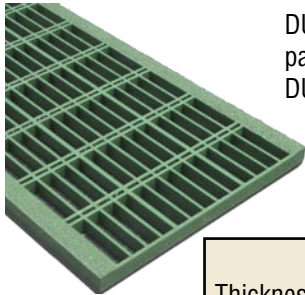
THICKNESS	MESH PATTERN	PANEL SIZES
1"	1-1/2" Square	3' x 10', 4' x 8', 4' x 12'
1"	1" x 4" Rectangular	3' x 10', 4' x 12'
1-1/2"	3/4" x 3/4" Micro Mesh	4' x 12'
1-1/2"	1-1/2" x 6" Rectangular	4' x 12'
1-1/2"	1-1/2" Square	3' x 10', 4' x 8', 4' x 12', 5' x 10'
2"	2" Square	4' x 12'

NOTE: All panel sizes available in VE, XVE, PP, GP or FF resin systems. Custom panel sizes and resins available upon request.

### How to Specify

The molded fiberglass grating shall be DURAGRATE® as supplied by Strongwell. Grating panels shall be (pick one from chart for thickness, mesh pattern, resin code) molded grid pattern. The grating shall be one-piece construction with the tops of the bearing bars and cross bars in the same plane. Color shall be (green) (orange) (yellow) (dark gray) (light gray). Surface shall be (concave top) (gritted).

## Stair Treads

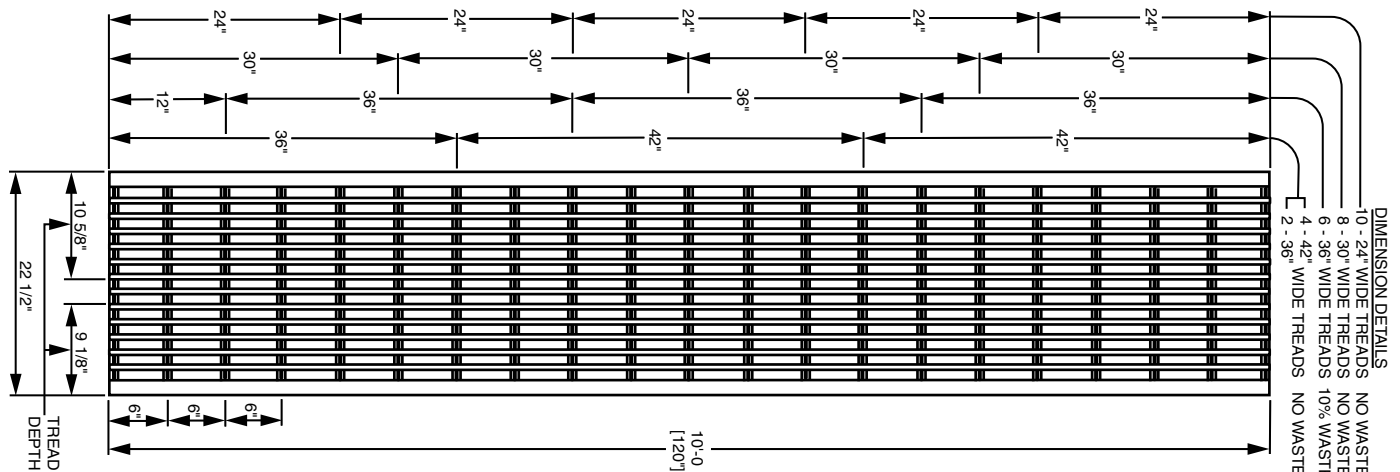


DURAGRATE® molded fiberglass stair treads are available in a 1-1/2" thick 1-1/2" x 6" rectangular mesh pattern. The standard panel size is 22-1/2" x 10'. Stair treads can be produced in any of the standard DURAGRATE® resin systems. The stair tread panel comes complete with anti-slip nosing.

### DURAGRATE® Stair Tread

Thickness	Mesh	Panel Size	Maximum Span for 300 lbs. at Mid-Span		Panel Weight	Open Area
			1/8" or less deflection	1/4" or less deflection		
1-1/2"	1-1/2" x 6"	22-1/2" x 10'	31"	38"	60 lbs.	67%

### Stair Tread Panel Cutting Diagram



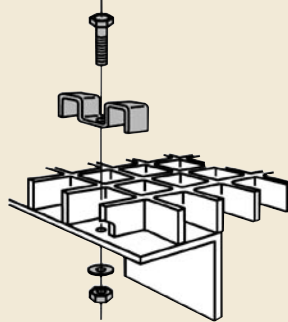


# Accessories

## Panel Installation

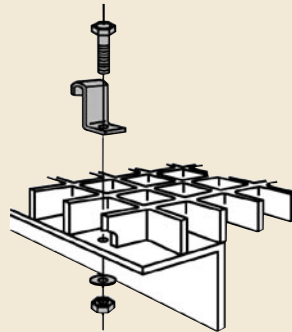
### Type M Clips

For attaching grating to supports.



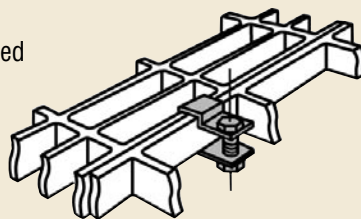
### Type J Clips

For attaching grating to supports for moderate loads.



### Type C Clips

For joining two unsupported edges if needed.



## Sealing Kits

To maintain corrosion resistance and structural integrity, standard resin sealing kits are available to protect the exposed ends of cut panels and other components.

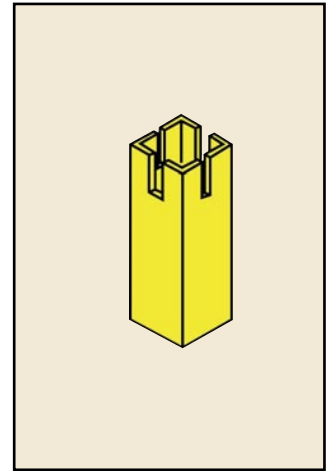
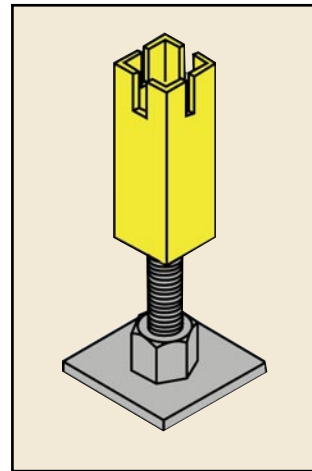
## Solid Surface

DURAGRATE® is available with an integral cover bonded to the top surface with a slip resistant grit surface.



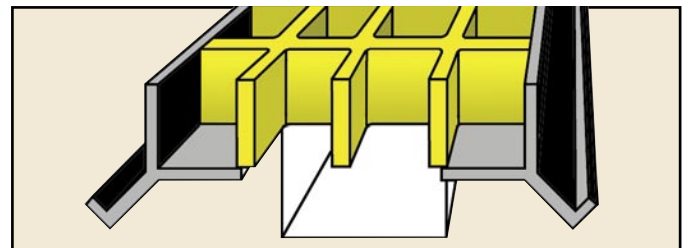
## Elevated Floor System

Fixed and adjustable legs for molded grating are available to provide sturdy support for elevated flooring. Contact Strongwell with your exact requirements.



## Curb Angle

Strongwell's pultruded fiberglass Curb Angle provides a strong, firm base for bearing bars. Standard Curb Angle is produced using a gray, fire retardant vinyl ester resin system and is available in three sizes.

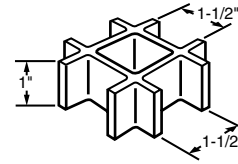




# Load Tables

## 1" THICK 1-1/2" SQUARE MESH DURAGRATE®

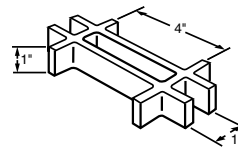
A=1.71 in.<sup>2</sup>/ft. of width (3.62 x 10<sup>3</sup>mm<sup>2</sup>/m) S=0.29 in.<sup>3</sup>/ft. of width (1.56 x 10<sup>4</sup>mm<sup>3</sup>/m)  
 l=0.14 in.<sup>4</sup>/ft. of width (1.91 x 10<sup>5</sup>mm<sup>4</sup>/m)  
 No. Bars per foot = 8 Open Space = 70% Approx. Weight = 2.6 lbs/sq. ft. (12.7 kg/sq. m)



SPAN		LOAD								SAFE LOAD 5:1 SAFETY FACTOR	DEFLECTION	E x 10 <sup>9</sup> PSI (E x 10 <sup>10</sup> N/m <sup>2</sup> )
		50 (3)	100 (3.5)	150 (4)	200 (4.5)	250 (5)	300 (6)	400 (8)	500 (10)			
12 (400 mm)	Δu	<0.010	<0.010	0.013	0.017	0.021	0.025	0.034	0.042	1360 38	0.115 4.95	1.90
	Δu	<0.39	<0.46	0.52	0.59	0.65	0.78	1.04	1.30			
	Δc	<0.010	0.014	0.020	0.027	0.034	0.041	0.054	0.068			
18 (600 mm)	Δu	0.021	0.041	0.062	0.082	0.103	0.123	0.164	0.205	666 19	0.274 12.16	1.98
	Δu	1.92	2.24	2.56	2.88	3.20	3.84	5.12	6.40			
	Δc	0.022	0.044	0.066	0.088	0.110	0.131	0.175	0.219			
24 (800 mm)	Δu	0.064	0.128	0.192	0.256	0.320	0.384	0.512	0.640	380 10	0.486 19.95	2.01
	Δu	5.98	6.98	7.98	8.98	9.97	11.97	15.96	17.07			
	Δc	0.051	0.102	0.154	0.205	0.256	0.307	0.409	0.512			
30 (1000 mm)	Δu	0.155	0.309	0.464	0.619					240 6	0.742 28.81	2.03
	Δu	14.40	16.80									
	Δc	0.099	0.198	0.297	0.396	0.495	0.594					
36	Δu	0.318	0.635							160 6	1.016 23.04	2.05
	Δu											
	Δc	0.169	0.339	0.508	0.677							

## 1" THICK 1" x 4" RECTANGULAR MESH DURAGRATE®

A=2.57 in.<sup>2</sup>/ft. of width (5.44 x 10<sup>3</sup>mm<sup>2</sup>/m) S=0.43 in.<sup>3</sup>/ft. of width (2.31 x 10<sup>4</sup>mm<sup>3</sup>/m)  
 l=0.22 in.<sup>4</sup>/ft. of width (3.00 x 10<sup>5</sup>mm<sup>4</sup>/m)  
 No. Bars per foot = 12 Open Space = 69% Approx. Weight = 2.8 lbs/sq. ft. (13.7 kg/sq. m)



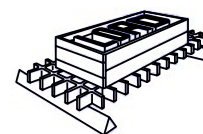
SPAN		LOAD								SAFE LOAD 5:1 SAFETY FACTOR	DEFLECTION	E x 10 <sup>9</sup> PSI (E x 10 <sup>10</sup> N/m <sup>2</sup> )
		50 (3)	100 (3.5)	150 (4)	200 (4.5)	250 (5)	300 (6)	400 (8)	500 (10)			
12 (400 mm)	Δu	<0.010	<0.010	<0.010	0.011	0.014	0.017	0.022	0.028	1960 55	0.108 4.43	1.85
	Δu	<0.24	<0.28	<0.32	0.36	0.40	0.48	0.64	0.81			
	Δc	<0.010	<0.010	0.013	0.018	0.022	0.027	0.035	0.044			
18 (600 mm)	Δu	0.012	0.025	0.037	0.049	0.062	0.074	0.099	0.123	960 28	0.237 10.43	2.10
	Δu	1.12	1.30	1.49	1.68	1.86	2.24	2.98	3.73			
	Δc	0.013	0.026	0.039	0.053	0.066	0.079	0.105	0.131			
24 (800 mm)	Δu	0.037	0.074	0.112	0.149	0.186	0.223	0.298	0.372	560 14	0.417 15.75	2.20
	Δu	3.38	3.94	4.50	5.06	5.63	6.75	9.00	11.25			
	Δc	0.030	0.060	0.089	0.119	0.149	0.179	0.238	0.298			
30 (1000 mm)	Δu	0.088	0.176	0.264	0.352	0.440	0.528			336 10	0.591 26.30	2.27
	Δu	7.89	9.21	10.52	11.84	13.15	15.78					
	Δc	0.056	0.113	0.169	0.225	0.282	0.338	0.451	0.563			
36	Δu	0.176	0.353	0.529						240 6	0.846 26.30	2.35
	Δu											
	Δc	0.094	0.188	0.282	0.376	0.470	0.564					
42	Δu	0.316	0.632							183 6	1.155 26.30	2.43
	Δu											
	Δc	0.144	0.289	0.433	0.577							

NOTE: Rectangular grating tables are for loading in the crosswise orientation.

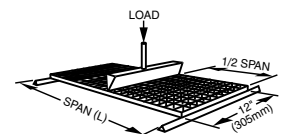
- c IS CONCENTRATED LOAD LBS/FT OF WIDTH (KN/m)
- Δc IS DEFLECTION UNDER CONCENTRATED LOAD
- u IS UNIFORM LOAD LBS/FT<sup>2</sup> (KN/m<sup>2</sup>)
- Δu IS DEFLECTION UNDER UNIFORM LOAD

NOTE: ALL TABLE VALUES ARE TYPICAL

Uniform Load



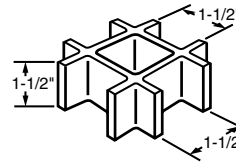
Concentrated Load



# Load Tables

## 1-1/2" THICK 1-1/2" SQUARE MESH DURAGRATE®

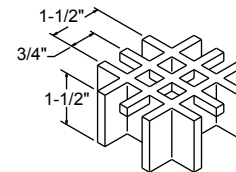
A=2.85 in.<sup>2</sup>/ft. of width (6.03 x 10<sup>3</sup>mm<sup>2</sup>/m) S=0.65 in.<sup>3</sup>/ft. of width (3.49 x 10<sup>4</sup>mm<sup>3</sup>/m)  
 l=0.51 in.<sup>4</sup>/ft. of width (6.96 x 10<sup>6</sup>mm<sup>4</sup>/m)  
 No. Bars per foot = 8 Open Space = 70% Approx. Weight = 3.8 lbs/sq.ft. (18.6 kg/sq. m)



SPAN	LOAD									SAFE LOAD 5:1 SAFETY FACTOR	DEFLECTION	E x 10 <sup>9</sup> PSI (E x 10 <sup>10</sup> N/m <sup>2</sup> )
	50 (3)	100 (3.5)	150 (4)	200 (4.5)	250 (5)	300 (6)	400 (8)	500 (10)				
<b>12</b> (400 mm)	Δu	<0.010	<0.010	<0.010	<0.010	<0.010	0.011	0.014	0.018	3120	0.111	<b>1.24</b>
	Δu	<0.14	<0.17	<0.19	<0.22	<0.24	0.29	0.38	0.48	58	2.78	
	Δc	<0.010	<0.010	<0.010	0.011	0.014	0.017	0.023	0.028	1560	0.089	
	Δc	<0.57	<0.67	<0.77	0.86	0.96	1.15	1.53	1.92	17	3.26	<b>1</b>
<b>18</b> (600 mm)	Δu	<0.010	0.014	0.021	0.028	0.036	0.043	0.057	0.071	1386	0.197	<b>1.57</b>
	Δu	<0.63	0.74	0.84	0.95	1.05	1.26	1.69	2.11	39	8.22	
	Δc	<0.010	0.015	0.023	0.030	0.038	0.046	0.061	0.076	1040	0.158	
	Δc	<1.69	1.97	2.25	2.53	2.81	3.37	4.50	5.62	12	6.75	<b>1.15</b>
<b>24</b> (800 mm)	Δu	0.021	0.042	0.063	0.084	0.104	0.125	0.167	0.209	780	0.326	<b>1.69</b>
	Δu	1.81	2.11	2.41	2.72	3.02	3.62	4.83	6.03	22	13.27	
	Δc	0.017	0.033	0.050	0.067	0.084	0.100	0.134	0.167	780	0.261	
	Δc	3.62	4.22	4.83	5.43	6.03	7.24	9.65	12.07	9	10.86	<b>1.27</b>
<b>30</b> (1000 mm)	Δu	0.047	0.094	0.141	0.188	0.235	0.283	0.377	0.471	496	0.467	<b>1.83</b>
	Δu	4.32	5.04	5.76	6.48	7.20	8.63	11.51	14.39	14	20.15	
	Δc	0.030	0.060	0.090	0.121	0.151	0.181	0.241	0.301	620	0.374	
	Δc	6.91	8.06	9.21	10.36	11.51	13.82			7	16.12	<b>1.3</b>
<b>36</b> (1200 mm)	Δu	0.096	0.192	0.288	0.384	0.480	0.576			347	0.666	<b>1.86</b>
	Δu	8.56	9.98	11.41	12.84	14.26	17.11			8	22.82	
	Δc	0.051	0.102	0.154	0.205	0.256	0.307	0.410	0.512	520	0.533	
	Δc	11.41	13.31	15.21	17.11					5	19.02	<b>1.36</b>
<b>42</b>	Δu	0.175	0.350	0.525						251	0.881	<b>1.89</b>
	Δu											
	Δc	0.080	0.160	0.240	0.320	0.400	0.480	0.641	0.801	440	0.705	
	Δc											
<b>48</b>	Δu	0.287	0.573							170	0.975	<b>1.97</b>
	Δu											
	Δc	0.115	0.229	0.344	0.459	0.573	0.688			340	0.780	
	Δc											

## 1-1/2" THICK 3/4" SQUARE MESH DURAGRATE®

A=3.62 in.<sup>2</sup>/ft. of width (7.66 x 10<sup>3</sup>mm<sup>2</sup>/m) S=0.90 in.<sup>3</sup>/ft. of width (4.83 x 10<sup>4</sup>mm<sup>3</sup>/m)  
 l=0.73 in.<sup>4</sup>/ft. of width (9.96 x 10<sup>6</sup>mm<sup>4</sup>/m)  
 No. Bars per foot = 8 Open Space = 44% Approx. Weight = 4.4 lbs/sq.ft. (21.5 kg/sq. m)

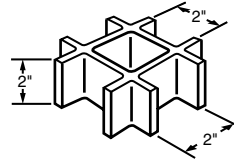


SPAN	LOAD									SAFE LOAD 5:1 SAFETY FACTOR	DEFLECTION	E x 10 <sup>9</sup> PSI (E x 10 <sup>10</sup> N/m <sup>2</sup> )
	50 (3)	100 (3.5)	150 (4)	200 (4.5)	250 (5)	300 (6)	400 (8)	500 (10)				
<b>12</b> (400 mm)	Δu	<0.010	<0.010	0.011	0.014	0.017	0.021	0.028	0.035	3860	0.270	<b>0.44</b>
	Δu	<0.40	<0.47	0.53	0.60	0.67	0.80	1.06	1.33	111	14.77	
	Δc	<0.010	0.011	0.017	0.022	0.028	0.034	0.045	0.056	1930	0.216	
	Δc	<1.60	1.86	2.13	2.39	2.66	3.19	4.26	5.32	22	11.71	<b>0.36</b>
<b>18</b> (600 mm)	Δu	0.013	0.026	0.039	0.052	0.065	0.078	0.104	0.130	1776	0.470	<b>0.59</b>
	Δu	1.12	1.31	1.49	1.68	1.87	2.24	2.98	3.73	52	19.40	
	Δc	0.014	0.028	0.042	0.056	0.070	0.084	0.112	0.139	1332	0.376	
	Δc	2.98	3.48	3.98	4.48	4.97	5.97	7.96	9.95	15	14.92	<b>0.65</b>
<b>24</b> (800 mm)	Δu	0.025	0.050	0.075	0.100	0.126	0.151	0.201	0.251	1052	0.529	<b>0.98</b>
	Δu	2.84	3.31	3.78	4.26	4.73	5.68	7.57	9.46	28	26.49	
	Δc	0.020	0.040	0.060	0.080	0.101	0.121	0.161	0.201	1052	0.423	
	Δc	5.68	6.62	7.57	8.51	9.46	11.35	15.14	18.92	11	20.81	<b>0.81</b>
<b>30</b> (1000 mm)	Δu	0.055	0.110	0.165	0.219	0.274	0.329	0.439	0.548	632	0.692	<b>1.10</b>
	Δu	5.45	6.36	7.27	8.17	9.08	10.90	14.53	18.16	18	32.69	
	Δc	0.035	0.070	0.105	0.140	0.176	0.211	0.281	0.351	790	0.553	
	Δc	8.72	10.17	11.62	13.08	14.53	17.44			9	26.16	<b>1.03</b>
<b>36</b> (1200 mm)	Δu	0.087	0.173	0.260	0.346	0.433	0.520	0.692		456	0.796	<b>1.43</b>
	Δu	10.58	12.34	14.11	15.87	17.63	21.16			10	35.27	
	Δc	0.046	0.092	0.139	0.185	0.231	0.277	0.370	0.462	684	0.637	
	Δc	14.11	16.46	18.81	21.16					6	28.21	<b>1.1</b>
<b>42</b>	Δu	0.150	0.300	0.450	0.600					332	1.005	<b>1.53</b>
	Δu											
	Δc	0.069	0.138	0.207	0.276					582	0.804	
	Δc											
<b>48</b>	Δu	0.245	0.490	0.735						215	1.054	<b>1.61</b>
	Δu											
	Δc	0.098	0.196	0.294						430	0.843	
	Δc											

# Load Tables

## 2" THICK 2" SQUARE MESH DURAGRATE®

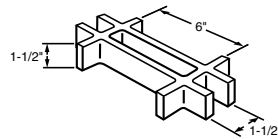
A=2.88 in.<sup>2</sup>/ft. of width (6.09 x 10<sup>3</sup>mm<sup>2</sup>/m) S=0.94 in.<sup>3</sup>/ft. of width (5.05 x 10<sup>4</sup>mm<sup>3</sup>/m)  
 I=0.96 in.<sup>4</sup>/ft. of width (13.11 x 10<sup>5</sup>mm<sup>4</sup>/m)  
 No. Bars per foot = 6 Open Space = 72% Approx. Weight = 4.0 lbs/sq.ft. (19.5 kg/sq. m)



SPAN		LOAD								SAFE LOAD 5:1 SAFETY FACTOR	DEFLECTION	E x 10 <sup>6</sup> PSI (E x 10 <sup>10</sup> N/m <sup>2</sup> )
		50 (3)	100 (3.5)	150 (4)	200 (4.5)	250 (5)	300 (6)	400 (8)	500 (10)			
12 (400 mm)	Δu	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	4000	0.081	1.15
	Δu	<0.08	<0.10	<0.11	<0.12	<0.14	<0.16	<0.22	0.27	56	1.53	
	Δc	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	0.013	0.016	2000	0.065	0.93
Δc	<0.33	<0.38	<0.44	<0.49	<0.55	0.66	0.87	1.09	22	2.41		
18 (600 mm)	Δu	<0.010	<0.010	0.012	0.016	0.020	0.024	0.032	0.040	1813	0.145	1.48
	Δu	<0.31	<0.36	0.42	0.47	0.52	0.62	0.83	1.04	47	4.88	
	Δc	<0.010	<0.010	0.013	0.017	0.021	0.026	0.034	0.043	1360	0.116	1.24
Δc	<0.83	<0.97	1.11	1.25	1.38	1.66	2.21	2.77	14	3.88		
24 (800 mm)	Δu	0.010	0.021	0.031	0.042	0.052	0.063	0.083	0.104	960	0.200	1.80
	Δu	0.87	1.02	1.16	1.31	1.45	1.74	2.32	2.91	28	8.14	
	Δc	<0.010	0.017	0.025	0.033	0.042	0.050	0.067	0.083	960	0.160	1.4
Δc	<1.74	2.03	2.32	2.62	2.91	3.49	4.65	5.81	11	6.39		
30 (1000 mm)	Δu	0.023	0.046	0.069	0.092	0.114	0.137	0.183	0.229	640	0.293	2.00
	Δu	2.03	2.36	2.70	3.04	3.38	4.05	5.41	6.76	18	12.16	
	Δc	0.015	0.029	0.044	0.059	0.073	0.088	0.117	0.146	800	0.234	1.47
Δc	3.24	3.78	4.32	4.86	5.41	6.49	8.65	10.81	9	9.73		
36 (1200 mm)	Δu	0.044	0.089	0.133	0.177	0.222	0.266	0.355	0.444	453	0.402	2.14
	Δu	4.04	4.71	5.38	6.06	6.73	8.08	10.77	13.46	13	17.50	
	Δc	0.024	0.047	0.071	0.095	0.118	0.142	0.189	0.237	680	0.322	1.53
Δc	5.38	6.28	7.18	8.08	8.97	10.77	14.36	17.95	4	7.18		
42 (1400 mm)	Δu	0.082	0.164	0.245	0.327	0.409	0.491	0.654		331	0.542	2.15
	Δu	7.29	8.51	9.72	10.94	12.15	14.58			9	21.87	
	Δc	0.037	0.075	0.112	0.150	0.187	0.224	0.299	0.374	580	0.434	1.57
Δc	8.33	9.72	11.11	12.50	13.89	16.66			3	8.33		
48	Δu	0.135	0.270	0.405	0.541					260	0.703	2.22
	Δu											
	Δc	0.054	0.108	0.162	0.216	0.270	0.324	0.432	0.541	520	0.562	
54	Δu	0.210	0.420	0.630						204	0.858	2.29
	Δu											
	Δc	0.075	0.149	0.224	0.298	0.373	0.448	0.597		460	0.686	

## 1-1/2" THICK 1-1/2" x 6" RECTANGULAR DURAGRATE®

A=3.785 in.<sup>2</sup>/ft. of width (8.01 x 10<sup>3</sup>mm<sup>2</sup>/m) S=1.500 in.<sup>3</sup>/ft. of width (3.81 x 10<sup>4</sup>mm<sup>3</sup>/m)  
 I=0.56 in.<sup>4</sup>/ft. of width (7.64 x 10<sup>5</sup>mm<sup>4</sup>/m)  
 No. Bars per foot = 8 Open Space = 67% Approx. Weight = 3.5 lbs/sq.ft. (18.6 kg/sq. m)



SPAN		LOAD								SAFE LOAD 5:1 SAFETY FACTOR	DEFLECTION	E x 10 <sup>6</sup> PSI (E x 10 <sup>10</sup> N/m <sup>2</sup> )
		50 (3)	100 (3.5)	150 (4)	200 (4.5)	250 (5)	300 (6)	400 (8)	500 (10)			
12 (400 mm)	Δu	<0.010	<0.010	<0.010	<0.010	0.011	0.014	0.018	0.023	4272	0.195	0.88
	Δu	<0.20	<0.23	<0.26	<0.30	0.33	0.39	0.52	0.66	107	7.02	
	Δc	<0.010	<0.010	0.011	0.015	0.018	0.022	0.029	0.037	2136	0.156	0.73
Δc	<0.79	<0.92	1.05	1.18	1.31	1.57	2.10	2.62	21	5.51		
18 (600 mm)	Δu	<0.010	0.018	0.027	0.035	0.044	0.053	0.071	0.089	1712	0.300	1.16
	Δu	<0.64	0.74	0.85	0.96	1.06	1.28	1.70	2.13	47	10.00	
	Δc	0.010	0.019	0.028	0.038	0.047	0.057	0.076	0.095	1284	0.240	1.14
Δc	1.70	1.99	2.27	2.55	2.84	3.40	4.54	5.67	14	7.94		
24 (800 mm)	Δu	0.019	0.038	0.056	0.075	0.094	0.112	0.150	0.188	956	0.359	1.71
	Δu	1.61	1.88	2.14	2.41	2.68	3.22	4.29	5.36	24	12.86	
	Δc	0.015	0.030	0.045	0.060	0.075	0.090	0.120	0.150	956	0.288	1.43
Δc	3.22	3.75	4.29	4.82	5.36	6.43	8.57	10.72	9	9.65		
30 (1000 mm)	Δu	0.039	0.078	0.117	0.156	0.195	0.233	0.311	0.389	587	0.458	2.01
	Δu	3.49	4.07	4.65	5.23	5.81	6.97	9.30	11.62	15	17.43	
	Δc	0.025	0.050	0.075	0.100	0.125	0.150	0.200	0.250	734	0.367	1.61
Δc	5.58	6.51	7.44	8.37	9.30	11.16			7	13.01		
36 (1200 mm)	Δu	0.071	0.143	0.214	0.285	0.357	0.428			385	0.550	2.28
	Δu	6.81	7.94	9.07	10.21	11.34	13.61			9	20.42	
	Δc	0.038	0.076	0.114	0.152	0.190	0.228	0.304	0.381	578	0.440	1.71
Δc	9.07	10.59	12.10	13.61					5	15.12		
42	Δu	0.126	0.252	0.378	0.504	0.630				370	0.680	2.39
	Δu											
	Δc	0.058	0.115	0.173	0.230	0.288	0.346	0.461		472	0.544	
48	Δu	0.207	0.414	0.621						184	0.760	2.49
	Δu											
	Δc	0.083	0.160	0.248	0.331	0.414	0.497			368	0.608	

# Innovative Solutions in Fiberglass



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