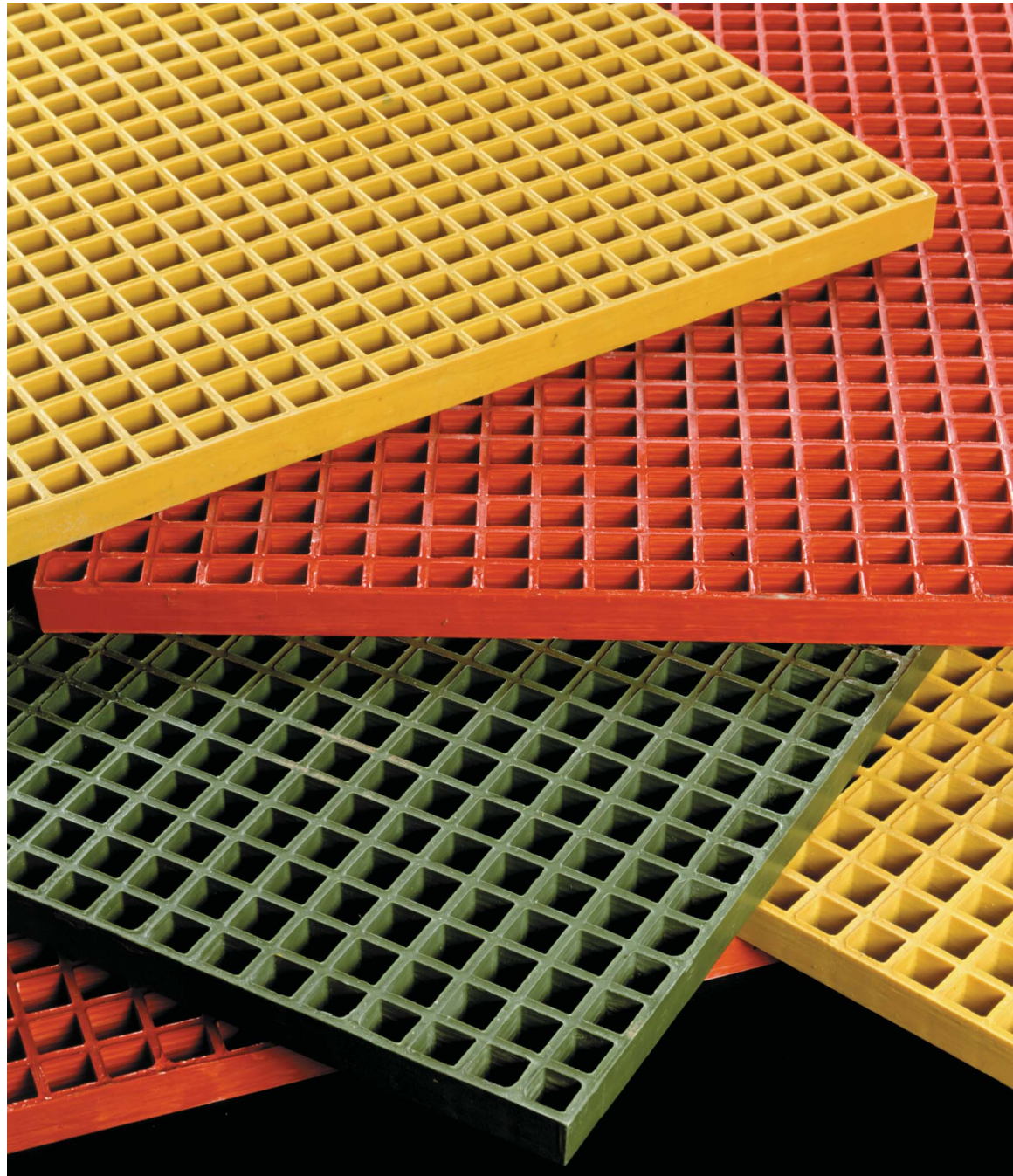


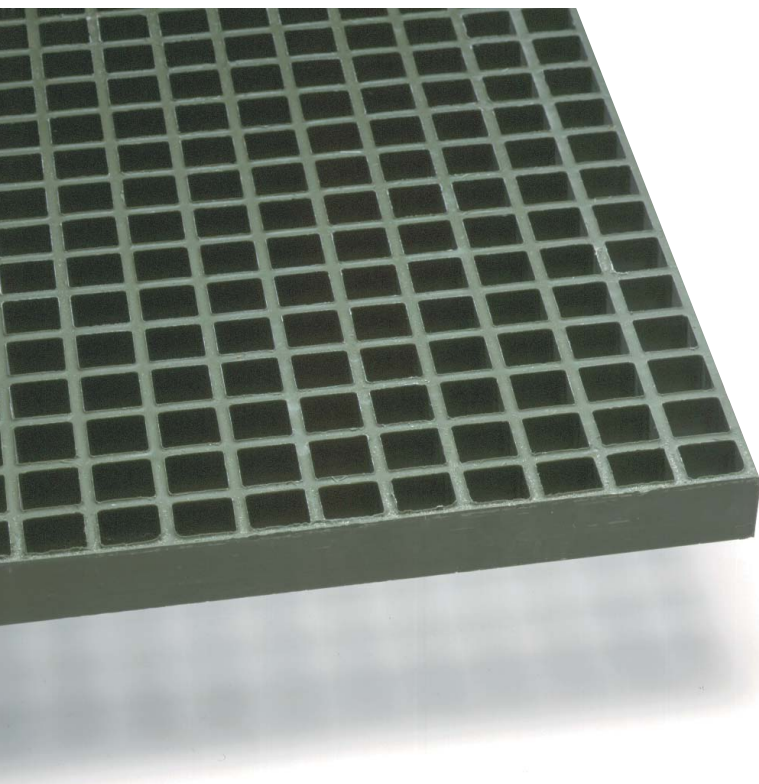
STRONGWELL

DURAGR[®]

MOLDED FIBERGLASS GRATING



Molded Fiberglass Grating



Features

DURAGRATE® molded fiberglass grating is a strong mesh grating panel which allows efficient on-site cutting to minimize grating waste. Molded in one piece with a plain concave non-slip walking surface, DURAGRATE® is the chemical resistant flooring choice for many industrial applications. Load bearing bars in both directions allow for use without continuous side support.

Molded fiberglass grating is significantly lighter in weight than metallic gratings. The high resin content (65%) provides long 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 has the following inherent features:

- Corrosion Resistant
- Fire Retardant
- Maintenance Free
- Lightweight
- Easy To Install
- Uniform Appearance
- Easy To Fabricate
- Impact Resistant
- Non-Conductive
- 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.



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

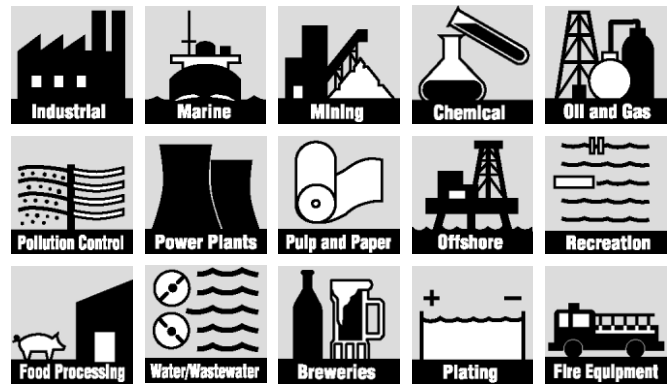
Standard Resin Systems Available

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

*Custom Colors Available Upon Request.

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

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

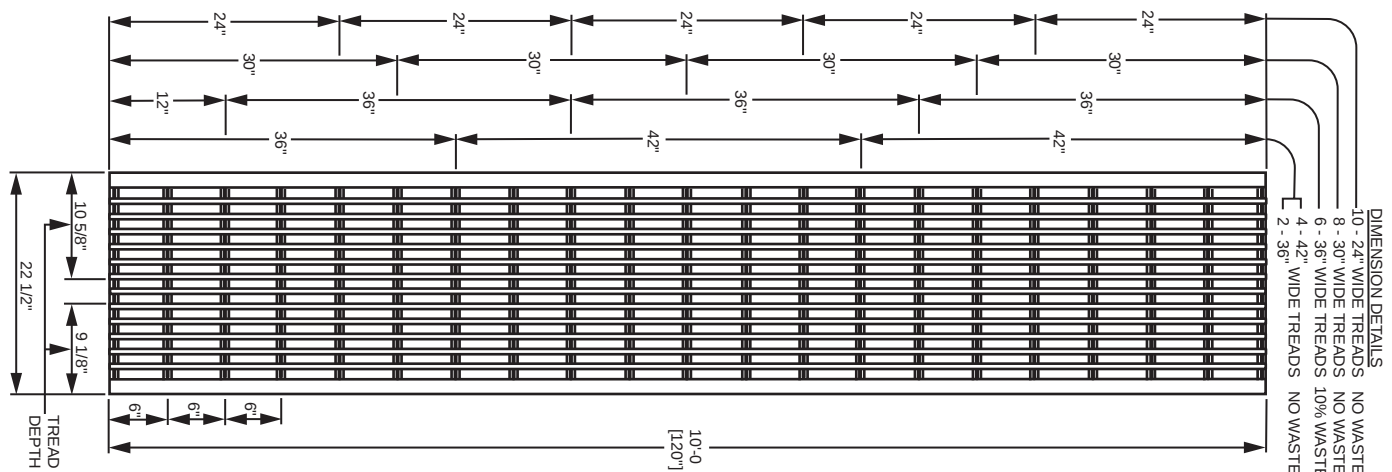
DURAGRATE® molded fiberglass stairtreads are available in a 1-1/2" thick 1-1/2" x 6" rectangular mesh pattern. The standard panel size is 22-1/2" x 10'. Stairtreads can be produced in any of the standard DURAGRATE® resin systems. The stairtread panel comes complete with anti-slip nosing.

Load Table

DURAGRATE® STAIRTREAD

Thickness	Mesh	Panel Size	Maximum Span for 300 lbs. at MidSpan		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%

Stairtread Panel Cutting Diagram

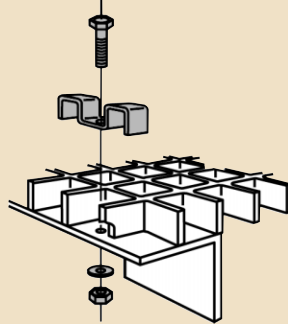


Accessories

Panel Installation

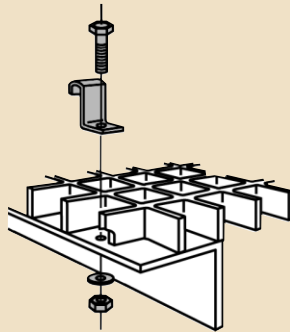
Type M Clips

For attaching grating to supports.



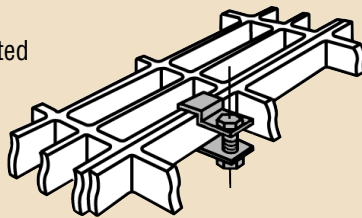
Type J Clips

For attaching grating to supports for moderate loads.



Type C Clips

For joining two unsupported edges if needed.



Sealing Kits

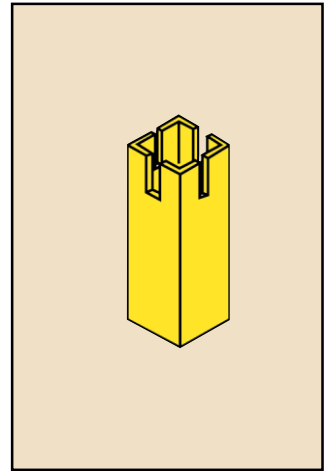
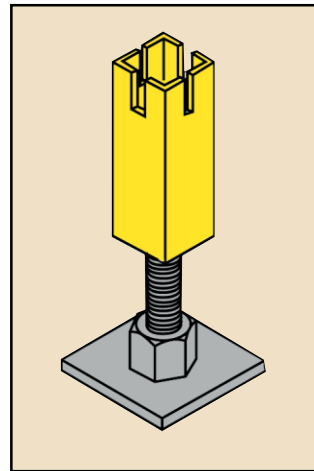
To maintain corrosion resistance and structural integrity, standard resin sealing kits are available to protect the exposed ends of cut panels and other components.

Solid Surface

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

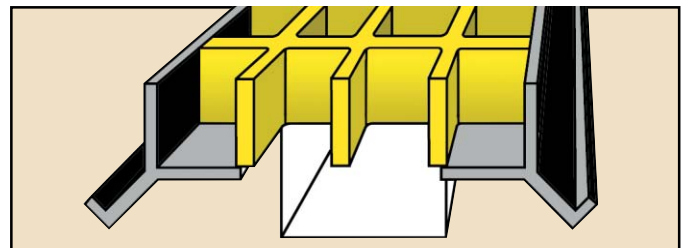
Elevated Floor System

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



Curb Angle

Fiberglass Curb Angle provides a strong, firm base for bearing bars and is pultruded from the same material and in the same manner as other DURADEK®/DURAGRID® products. Corrosion resistant, low conductivity Curb Angle is available in three sizes, gray, fire retardant vinyl ester.



Load Tables

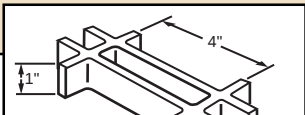
1" THICK 1-1/2" SQUARE MESH DURAGRATE®

A=1.71 in.²/ft. of width S=0.29 in.³/ft. of width I=0.14 in.⁴/ft. of width
No. Bars per foot = 8 Open Space = 70% Approx. Weight = 2.6 lbs/sq. ft.

SPAN INCHES		LOAD								SAFE LOAD 5:1 SAFETY FACTOR	DEFLECTION	E x 10 ⁶ PSI
		50	100	150	200	250	300	400	500			
12	Δu	<0.010	<0.010	0.013	0.017	0.021	0.025	0.034	0.042	1360 680	0.115 0.092	1.90
	Δc	<0.010	0.014	0.020	0.027	0.034	0.041	0.054	0.068			
18	Δu	0.021	0.041	0.062	0.082	0.103	0.123	0.164	0.205	666 500	0.274 0.219	1.98
	Δc	0.022	0.044	0.066	0.088	0.110	0.131	0.175	0.219			
24	Δu	0.064	0.128	0.192	0.256	0.320	0.384	0.512	0.640	380 380	0.486 0.389	2.01
	Δc	0.051	0.102	0.154	0.205	0.256	0.307	0.409	0.512			
30	Δu	0.155	0.309	0.464	0.619	0.495	0.594			240 300	0.742 0.594	2.03
	Δc	0.099	0.198	0.297	0.396							
36	Δu	0.318	0.635	0.508	0.677					160 240	1.016 0.813	2.05
	Δc	0.169	0.339									

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

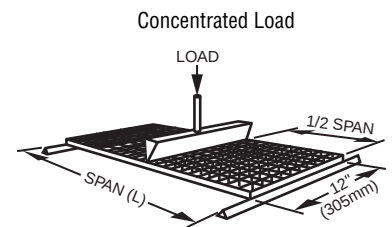
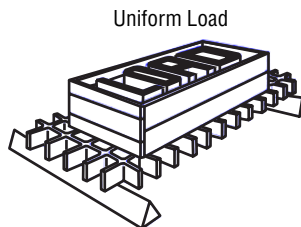
A=2.57 in.²/ft. of width S=0.43 in.³/ft. of width I=0.22 in.⁴/ft. of width
No. Bars per foot = 12 Open Space = 69% Approx. Weight = 2.8 lbs/sq. ft.

SPAN INCHES		50	100	150	200	LOAD				SAFE LOAD 5:1 SAFETY FACTOR	DEFLECTION	E x 10 ⁶ PSI
						250	300	400	500			
12	Δu	<0.010	<0.010	<0.010	0.011	0.014	0.017	0.022	0.028	1960	0.108	1.85
	Δc	<0.010	<0.010	0.013	0.018	0.022	0.027	0.035	0.044	980	0.087	
18	Δu	0.012	0.025	0.037	0.049	0.062	0.074	0.099	0.123	960	0.237	2.10
	Δc	0.013	0.026	0.039	0.053	0.066	0.079	0.105	0.131	720	0.189	
24	Δu	0.037	0.074	0.112	0.149	0.186	0.223	0.298	0.372	560	0.417	2.20
	Δc	0.030	0.060	0.089	0.119	0.149	0.179	0.238	0.298	560	0.333	
30	Δu	0.088	0.176	0.264	0.352	0.440	0.528	0.451	0.563	336	0.591	2.27
	Δc	0.056	0.113	0.169	0.225	0.282	0.338			420	0.473	
36	Δu	0.176	0.353	0.529	0.376	0.470	0.564			240	0.846	2.35
	Δc	0.094	0.188	0.282						360	0.677	
42	Δu	0.316	0.632	0.433	0.577					183	1.155	2.43
	Δc	0.144	0.289							320	0.924	

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

Δc IS CONCENTRATED LOAD LBS/FT OF WIDTH
Δc IS DEFLECTION UNDER CONCENTRATED LOAD
Δu IS UNIFORM LOAD LBS/FT²
Δu IS DEFLECTION UNDER UNIFORM LOAD

NOTE: ALL TABLE VALUES ARE TYPICAL

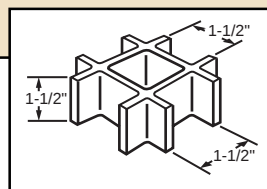


Load Tables

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

A=2.85 in.²/ft. of width S=0.65 in.³/ft. of width I=0.51 in.⁴/ft. of width
 No. Bars per foot = 8 Open Space = 70% Approx. Weight = 3.8 lbs/sq.ft.

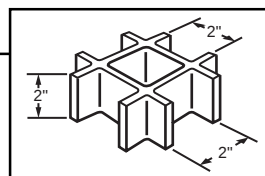
SPAN INCHES		LOAD								SAFE LOAD 5:1 SAFETY FACTOR	DEFLECTION	E x 10 ⁶ PSI
		50	100	150	200	250	300	400	500			
12	Δu	<0.010	<0.010	<0.010	<0.010	<0.010	0.011	0.014	0.018	3120	0.111	1.24
	Δc	<0.010	<0.010	<0.010	0.011	0.014	0.017	0.023	0.028	1560	0.089	
18	Δu	<0.010	0.014	0.021	0.028	0.036	0.043	0.057	0.071	1386	0.197	1.57
	Δc	<0.010	0.015	0.023	0.030	0.038	0.046	0.061	0.076	1040	0.158	
24	Δu	0.021	0.042	0.063	0.084	0.104	0.125	0.167	0.209	780	0.326	1.69
	Δc	0.017	0.033	0.050	0.067	0.084	0.100	0.134	0.167	780	0.261	
30	Δu	0.047	0.094	0.141	0.188	0.235	0.283	0.377	0.471	496	0.467	1.83
	Δc	0.030	0.060	0.090	0.121	0.151	0.181	0.241	0.301	620	0.374	
36	Δu	0.096	0.192	0.288	0.384	0.480	0.576			347	0.666	1.86
	Δc	0.051	0.102	0.154	0.205	0.256	0.307	0.410	0.512	520	0.533	
42	Δu	0.175	0.350	0.525						251	0.881	1.89
	Δc	0.080	0.160	0.240	0.320	0.400	0.480	0.641	0.801	440	0.705	
48	Δu	0.287	0.573							170	0.975	1.97
	Δc	0.115	0.229	0.344	0.459	0.573	0.688			340	0.780	



2" THICK 2" SQUARE MESH DURAGRATE®

A=2.88 in.²/ft. of width S=0.94 in.³/ft. of width I=0.96 in.⁴/ft. of width
 No. Bars per foot = 6 Open Space = 72% Approx. Weight = 4.0 lbs/sq.ft.

SPAN INCHES		LOAD								SAFE LOAD 5:1 SAFETY FACTOR	DEFLECTION	E x 10 ⁶ PSI
		50	100	150	200	250	300	400	500			
12	Δu	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	4000	0.081	1.15
	Δc	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	0.013	0.016	2000	0.065	
18	Δu	<0.010	<0.010	0.012	0.016	0.020	0.024	0.032	0.040	1813	0.145	1.48
	Δc	<0.010	<0.010	0.013	0.017	0.021	0.026	0.034	0.043	1360	0.116	
24	Δu	0.010	0.021	0.031	0.042	0.052	0.063	0.083	0.104	960	0.200	1.80
	Δc	<0.010	0.017	0.025	0.033	0.042	0.050	0.067	0.083	960	0.160	
30	Δu	0.023	0.046	0.069	0.092	0.114	0.137	0.183	0.229	640	0.293	2.00
	Δc	0.015	0.029	0.044	0.059	0.073	0.088	0.117	0.146	800	0.234	
36	Δu	0.044	0.089	0.133	0.177	0.222	0.266	0.355	0.444	453	0.402	2.14
	Δc	0.024	0.047	0.071	0.095	0.118	0.142	0.189	0.237	680	0.322	
42	Δu	0.082	0.164	0.245	0.327	0.409	0.491	0.654		331	0.542	2.15
	Δc	0.037	0.075	0.112	0.150	0.187	0.224	0.299	0.374	580	0.434	
48	Δu	0.135	0.270	0.405	0.541					260	0.703	2.22
	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
	Δc	0.075	0.149	0.224	0.298	0.373	0.448	0.597		460	0.686	



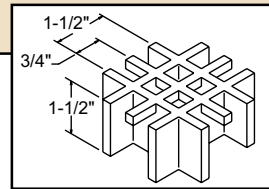
Load Tables

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

A=3.62 in.²/ft. of width S=0.90 in.³/ft. of width I=0.73 in.⁴/ft. of width

No. Bars per foot = 8 Open Space = 44% Approx. Weight =4.4 lbs/sq.ft.

SPAN INCHES		50	100	150	200	LOAD 250	300	400	500	SAFE LOAD 5:1 SAFETY FACTOR	DEFLECTION	E x 10 ⁶ PSI
12	Δu	<0.010	<0.010	0.011	0.014	0.017	0.021	0.028	0.035	3860	0.270	0.44
	Δc	<0.010	0.011	0.017	0.022	0.028	0.034	0.045	0.056	1930	0.216	
18	Δu	0.013	0.026	0.039	0.052	0.065	0.078	0.104	0.130	1776	0.470	0.59
	Δc	0.014	0.028	0.042	0.056	0.070	0.084	0.112	0.139	1332	0.376	
24	Δu	0.025	0.050	0.075	0.100	0.126	0.151	0.201	0.251	1052	0.529	0.98
	Δc	0.020	0.040	0.060	0.080	0.101	0.121	0.161	0.201	1052	0.423	
30	Δu	0.055	0.110	0.165	0.219	0.274	0.329	0.439	0.548	632	0.692	1.10
	Δc	0.035	0.070	0.105	0.140	0.176	0.211	0.281	0.351	790	0.553	
36	Δu	0.087	0.173	0.260	0.346	0.433	0.520	0.692		456	0.796	1.43
	Δc	0.046	0.092	0.139	0.185	0.231	0.277	0.370	0.462	684	0.637	
42	Δu	0.150	0.300	0.450	0.600					332	1.005	1.53
	Δc	0.069	0.138	0.207	0.276					582	0.804	
48	Δu	0.245	0.490	0.735						215	1.054	1.61
	Δc	0.098	0.196	0.294						430	0.843	

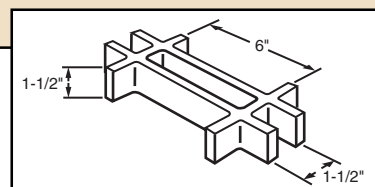


1-1/2" THICK 1-1/2" x 6" RECTANGULAR DURAGRATE®

A=3.785 in.²/ft. of width S=1.500 in.³/ft. of width I=0.56 in.⁴/ft. of width

No. Bars per foot = 8 Open Space = 67% Approx. Weight = 3.5 lbs/sq.ft.

SPAN INCHES		50	100	150	200	LOAD 250	300	400	500	SAFE LOAD 5:1 SAFETY FACTOR	DEFLECTION	E x 10 ⁶ PSI
12	Δu	<0.010	<0.010	<0.010	<0.010	0.011	0.014	0.018	0.023	4272	0.195	0.88
	Δc	<0.010	<0.010	0.011	0.015	0.018	0.022	0.029	0.037	2136	0.156	
18	Δu	<0.010	0.018	0.027	0.035	0.044	0.053	0.071	0.089	1712	0.300	1.16
	Δc	0.010	0.019	0.028	0.038	0.047	0.057	0.076	0.095	1284	0.240	
24	Δu	0.019	0.038	0.056	0.075	0.094	0.112	0.150	0.188	956	0.359	1.71
	Δc	0.015	0.030	0.045	0.060	0.075	0.090	0.120	0.150	956	0.288	
30	Δu	0.039	0.078	0.117	0.156	0.195	0.233	0.311	0.389	587	0.458	2.01
	Δc	0.025	0.050	0.075	0.100	0.125	0.150	0.200	0.250	734	0.367	
36	Δu	0.071	0.143	0.214	0.285	0.357	0.428			385	0.550	2.28
	Δc	0.038	0.076	0.114	0.152	0.190	0.228	0.304	0.381	578	0.440	
42	Δu	0.126	0.252	0.378	0.504	0.630				370	0.680	2.39
	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
	Δc	0.083	0.160	0.248	0.331	0.414	0.497			368	0.608	





STRONGWELL

ISO-9001 Certified Manufacturing Plants

BRISTOL DIVISION

400 Commonwealth Ave., Bristol, VA 24201-3820 USA
(276)645-8000 FAX (276)645-8132

www.strongwell.com

CHATFIELD DIVISION

1610 Highway 52 South, Chatfield, MN 55923-9799 USA
(507)867-3479 FAX (507)867-4031

INT10M0703
©Strongwell