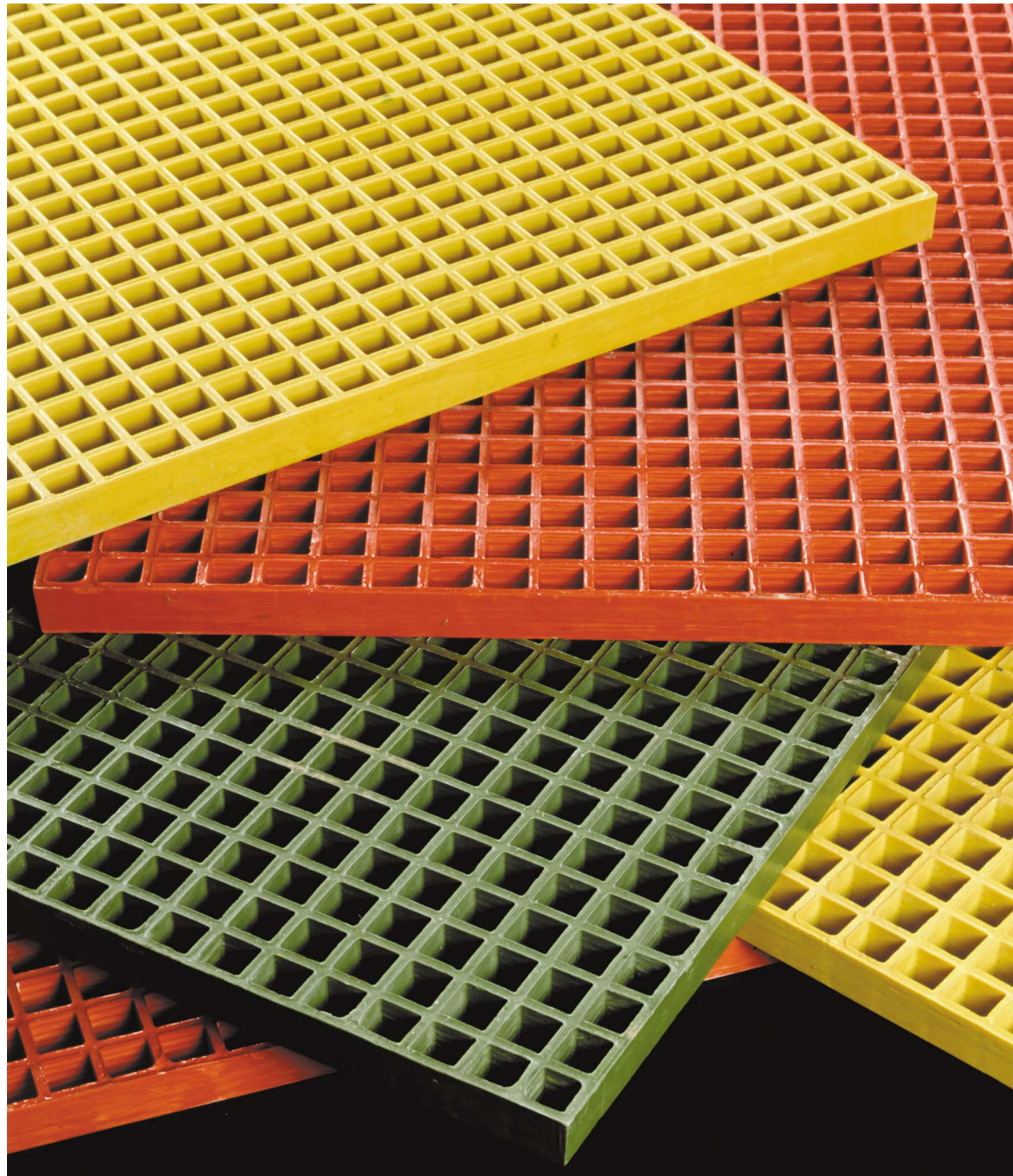


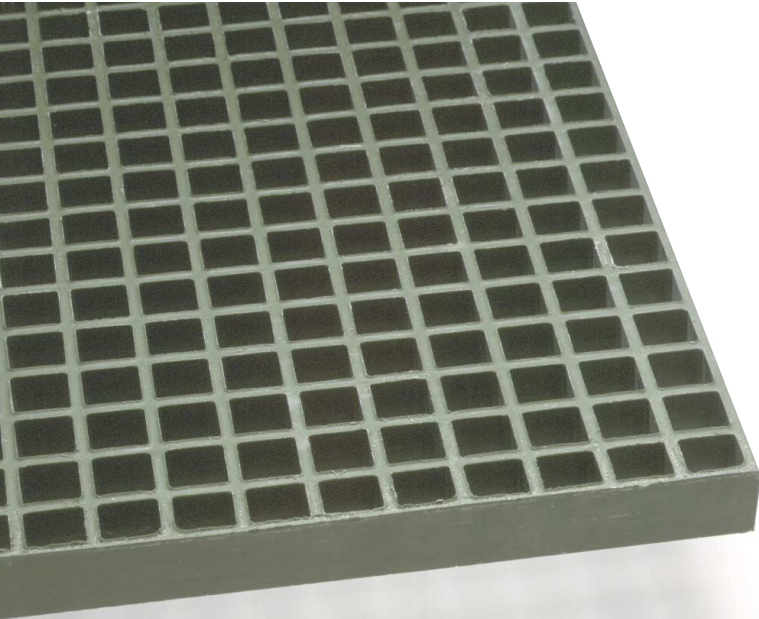
STRONGWELL

DURAGRATE[®]

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.

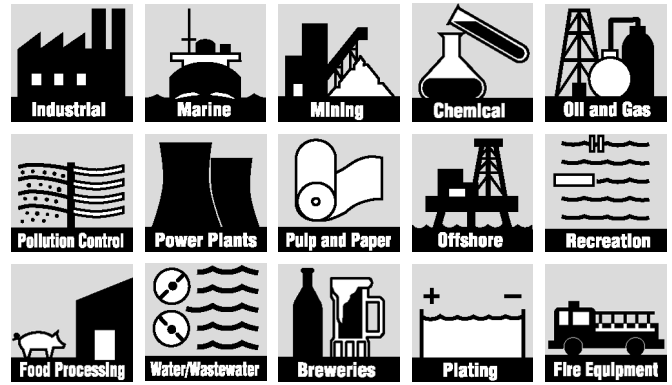
Standard Resin Systems Available

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	Yellow	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" MiniGrid	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

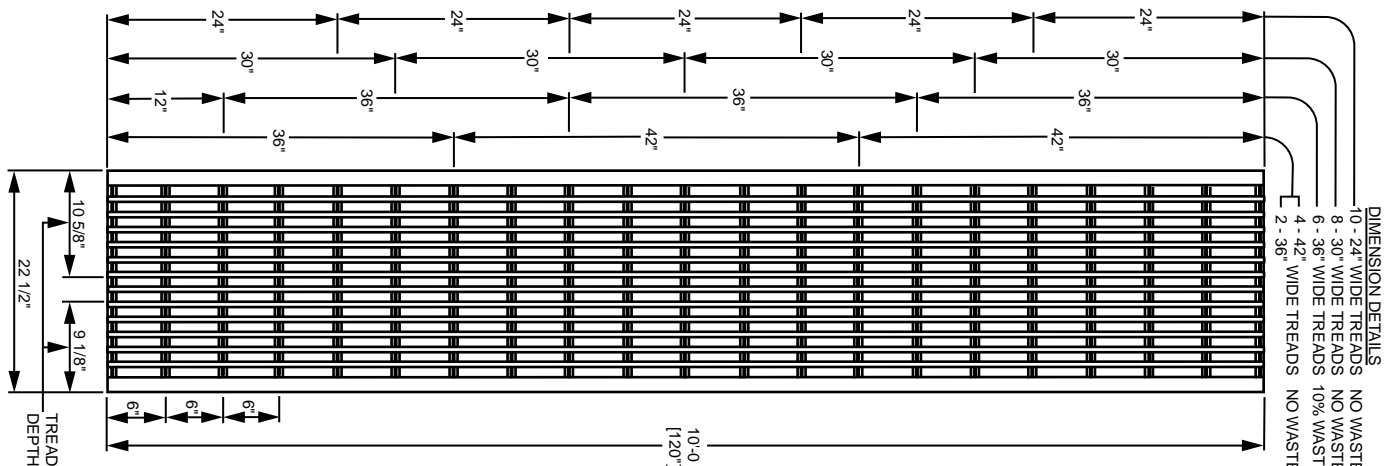
DURAGRATE® molded fiberglass stairtreads are available in a 1-1/2" thick 1-1/2" x 6" rectangular mesh pattern. The standard panel size is 22-1/2" x 10'. Stairtreads can be produced in any of the standard DURAGRATE® resin systems. The stairtread panel comes complete with anti-slip nosing.

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'	30"	38"	60 lbs.	67%

Stairtread Panel Cutting Diagram

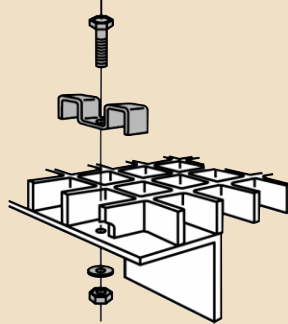


Accessories

Panel Installation

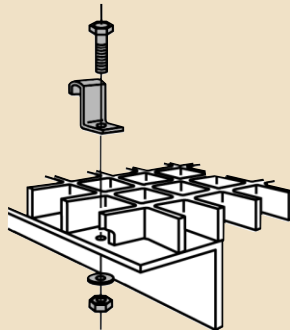
Type M Clips

For attaching grating to supports.



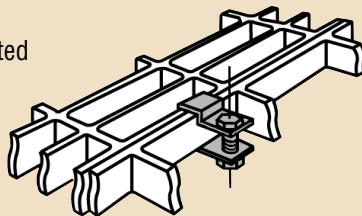
Type J Clips

For attaching grating to supports for moderate loads.



Type C Clips

For joining two unsupported edges if needed.



Sealing Kits

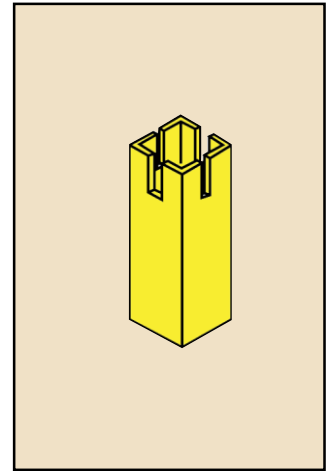
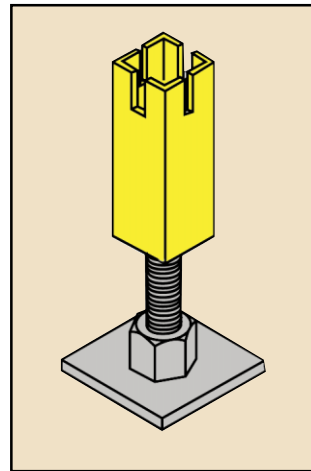
To maintain corrosion resistance and structural integrity, standard resin sealing kits are available to protect the exposed ends of cut panels and other components.

Solid Surface

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

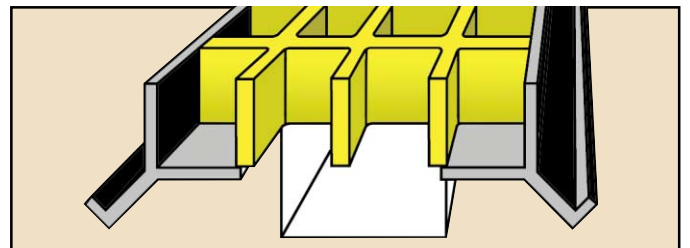
Elevated Floor System

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



Curb Angle

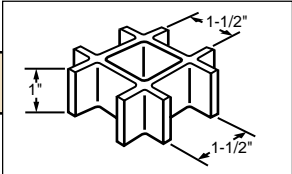
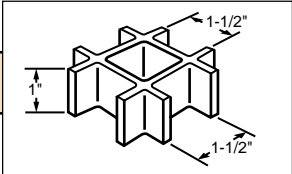
Fiberglass Curb Angle provides a strong, firm base for bearing bars and is pultruded from the same material and in the same manner as other DURADEK®/DURAGRID® products. Corrosion resistant, non-conducting Curb Angle is available in three sizes, gray, fire retardant vinyl ester.



Load Tables

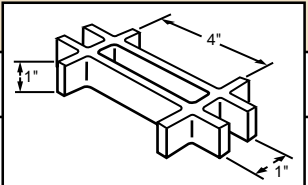
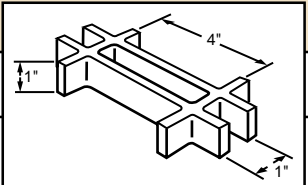
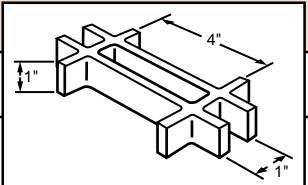
1" THICK 1-1/2" SQUARE MESH DURAGRATE®

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	0.004	0.008	0.013	0.017	0.021	0.025	0.034	0.042	1360	0.115	1.90
	Δc	0.007	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	660	0.271	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	0.486	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	0.742	2.03
	Δc	0.099	0.198	0.297	0.396							
36	Δu	0.318	0.635	0.508		0.677				160	1.016	2.05
	Δc	0.169	0.339									

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

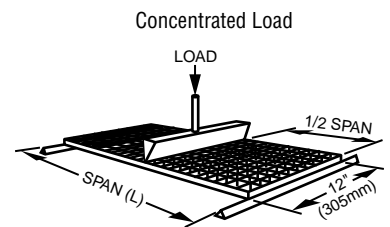
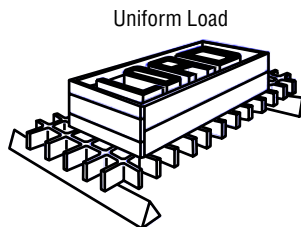
A=2.57 in.²/ft. of width S=0.43 in.³/ft. of width I=0.22 in.⁴/ft. of width
 No. Bars per foot = 12 Open Space = 69% Approx. Weight = 2.8 lbs/sq. ft.

SPAN INCHES		LOAD								SAFE LOAD 5:1 SAFETY FACTOR	DEFLECTION	E x 10 ⁶ PSI	
		50	100	150	200	250	300	400	500				
12	Δu	0.003	0.006	0.008	0.011	0.014	0.017	0.022	0.028	1960	0.108	1.85	
	Δc	0.004	0.009	0.013	0.018	0.022	0.027	0.035	0.044				980
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
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
30	Δu	0.088	0.176	0.264	0.352	0.440	0.528			340	0.598	2.27	
	Δc	0.056	0.113	0.169	0.225	0.282	0.338						0.451
36	Δu	0.176	0.353	0.529	0.376		0.470				240	0.846	2.35
	Δc	0.094	0.188	0.282									
42	Δu	0.316	0.632	0.433		0.577				180	1.137	2.43	
	Δc	0.144	0.289										0.433

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

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

NOTE: ALL TABLE VALUES ARE TYPICAL

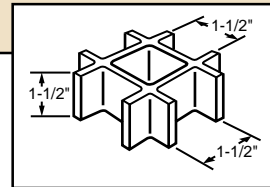


Load Tables

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.

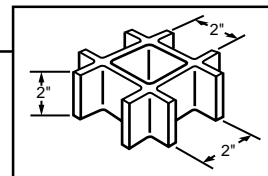
SPAN INCHES		LOAD								SAFE LOAD 5:1 SAFETY FACTOR	DEFLECTION	E x 10 ⁶ PSI
		50	100	150	200	250	300	400	500			
12	Δu	0.002	0.004	0.005	0.007	0.009	0.011	0.014	0.018	2080	0.074	1.24
	Δc	0.003	0.006	0.009	0.011	0.014	0.017	0.023	0.028			
18	Δu	0.007	0.014	0.021	0.028	0.036	0.043	0.057	0.071	1380	0.196	1.57
	Δc	0.008	0.015	0.023	0.030	0.038	0.046	0.061	0.076			
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			
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			
36	Δu	0.096	0.192	0.288	0.384	0.480	0.576			340	0.653	1.86
	Δc	0.051	0.102	0.154	0.205	0.256	0.307	0.410	0.512			
42	Δu	0.175	0.350	0.525						250	0.876	1.89
	Δc	0.080	0.160	0.240	0.320	0.400	0.480	0.641	0.801			
48	Δu	0.287	0.573							170	0.975	1.97
	Δc	0.115	0.229	0.344	0.459	0.573	0.688					



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	0.001	0.002	0.003	0.004	0.005	0.006	0.008	0.010	2000	0.041	1.15
	Δc	0.002	0.003	0.005	0.007	0.008	0.010	0.013	0.016			
18	Δu	0.004	0.008	0.012	0.016	0.020	0.024	0.032	0.040	1600	0.128	1.48
	Δc	0.004	0.009	0.013	0.017	0.021	0.026	0.034	0.043			
24	Δu	0.010	0.021	0.031	0.042	0.052	0.063	0.083	0.104	960	0.200	1.80
	Δc	0.008	0.017	0.025	0.033	0.042	0.050	0.067	0.083			
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			
36	Δu	0.044	0.089	0.133	0.177	0.222	0.266	0.355	0.444	460	0.408	2.14
	Δc	0.024	0.047	0.071	0.095	0.118	0.142	0.189	0.237			
42	Δu	0.082	0.164	0.245	0.327	0.409	0.491	0.654		340	0.556	2.15
	Δc	0.037	0.075	0.112	0.150	0.187	0.224	0.299	0.374			
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			
54	Δu	0.210	0.420	0.630						200	0.839	2.29
	Δc	0.075	0.149	0.224	0.298	0.373	0.448	0.597				



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BRISTOL DIVISION

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

CHATFIELD DIVISION

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

www.strongwell.com

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