SBC - China

High Performance and High Quality

www.sbcco-china.com

FRP Products
– 30+ years of experience

CORROSION RESISTANT COMPOSITE SOLUTIONS

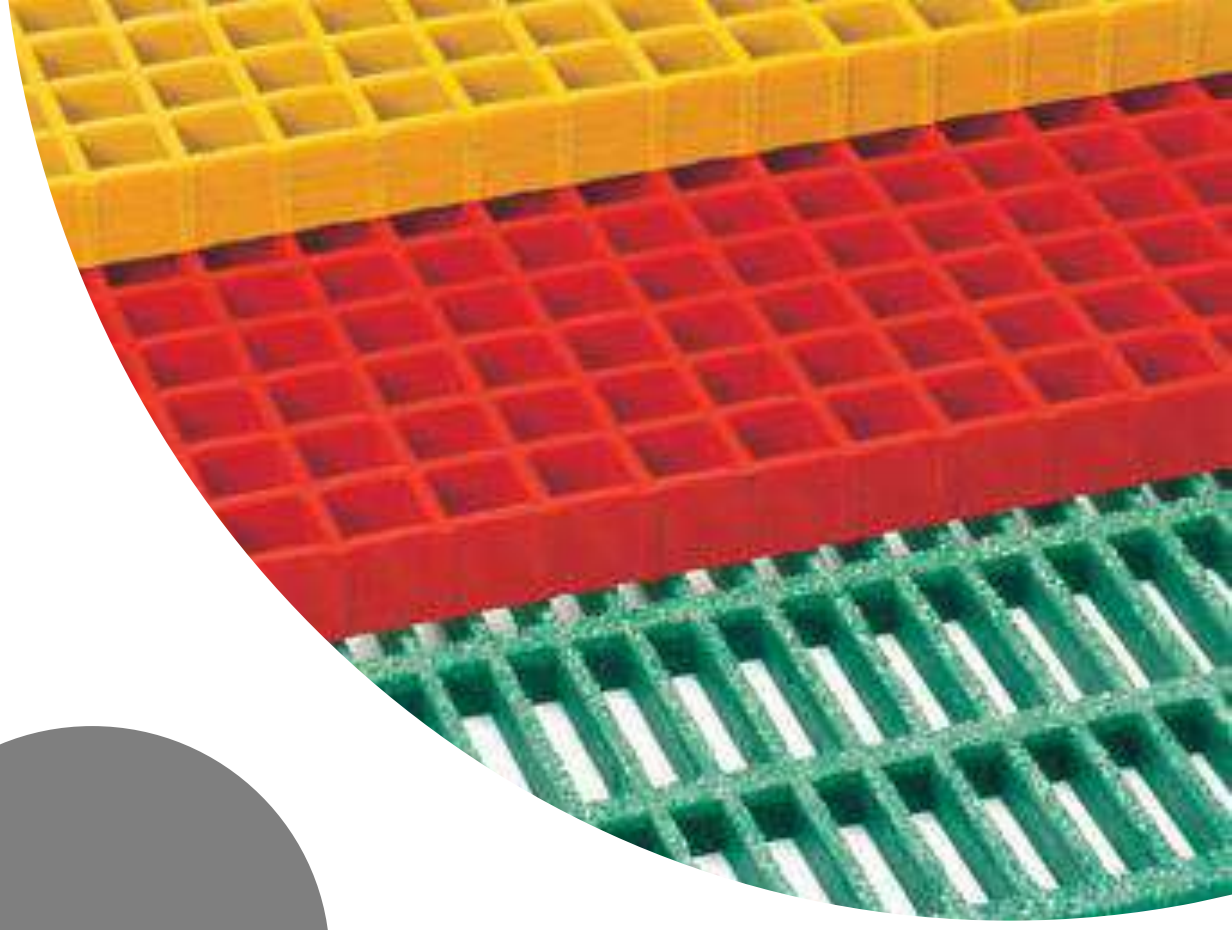
SBCCO-China is a majority foreign-owned Chinese corporation, originally set up to act as the purchasing office of Crimar Industrial, a US company that has been providing high quality industrial equipment to mining, smelting, water treatment, petrochemical, power and other industrial applications through its sales and support teams around the world.

Our motto is
"Quality first, quality second, on-time delivery third,
and if the first three are met, then focus on competitive pricing"

COMPANY Overview

Mr. Beman, the President/Owner of Crimar Industrial and majority owner of the Shijiazhuang Beman Commercial Co. Ltd.(SBCCO-China) has been traveling to China an average of 10 times a year for the past 12 years to ensure that our suppliers understand and meet our customers' needs. He also travels extensively to work with our sales teams on various continents to help customers meet their goals. He has over 30 years of experience in international sales and purchasing and is fluent in English, Spanish and French. Our understanding of languages and the different cultures that we work with helps us to get over the hurdles of misunderstandings.

We provide custom-fabricated tanks and process vessels with the resin and reinforcement materials selected based upon the operating environment. Depending on the job location we either shop fabricate or field wind/assemble tanks up to 15 meter diameter. All design, fabrication and inspection is in accordance with international standards (ASME, ASTM, API, …) in ISO9001 approved fabrication facilities. When appropriate we or our clients contract international third party inspection companies such as Moody, Veritas, ABS and others to review material certificates, production procedures, dimensions and product quality to certify that they meet the customers' requirements. We have over 30 years of experience in projects around the world.

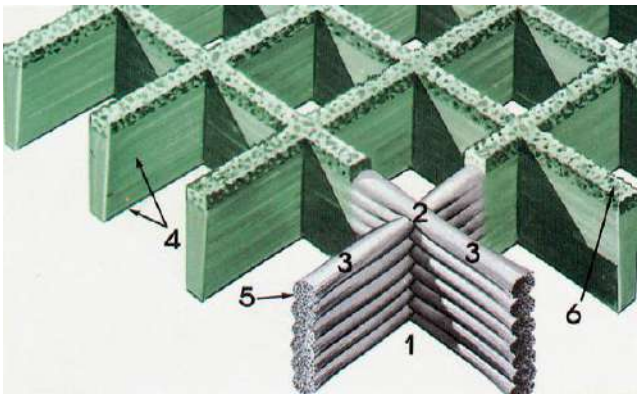


Molded FRP Gratings Brochure

MOLDED FRP GRATINGS BROCHURE

What is FRP grating?

SBC's molded fiberglass grating is a strong mesh grating panel that is the chemical resistant flooring choice for many industrial applications. Our 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.



Our molded fiberglass grating is significantly lighter in weight than metallic gratings and the high resin content provides excellent corrosion resistance and requires very little maintenance. A higher safety factor is achieved by designing in a higher glass content at the bottom of the grating for greater tensile strength.

Our 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

Our molded fiberglass grating is composed of fiberglass rovings combined with a choice of five thermosetting resin systems. All of the resins contain a UV inhibitor.
Standard grating has a concave profile on the upper surface for skid resistance. Grit tops are available upon request.

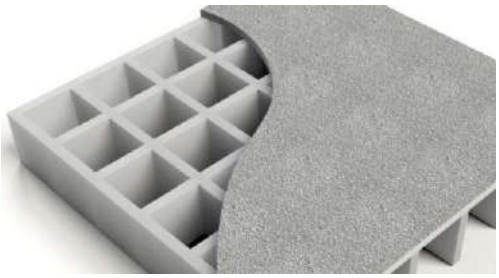
MOLDED FRP GRATINGS BROCHURE

Standard Resin Systems Available

Resin Code	Description	Resin Base	Corrosion Resistance	Flame Spread Rating	NSF-61 Certified
VE	Chemical Proof Fire Retardant	Vinyl Ester	Excellent	Class 1 25 or less	
NVE	Chemical Proof Fire Retardant	Vinyl Ester	Excellent	Class 1 25 or less	Hot & Cold
XVE	Chemical Proof Fire Retardant	Vinyl Ester	Excellent	Class 1 10 or less	
PP	Industrial Grade Fire Retardant	Isopthalic	Very Good	Class 1 25 or less	
NPP	Industrial Grade Fire Retardant	Isopthalic	Very Good	Class 1 25 or less	Hot & Cold
GP	Architectural Grade Fire Retardant	Orthophthalic	Good	Class 1 25 or less	
FF	Food Grade Fire Retardant	Isopthalic	Very Good	Class 2 30 or less	

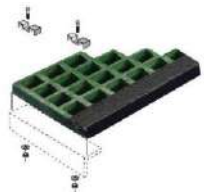
Shapes, Sizes and Availability

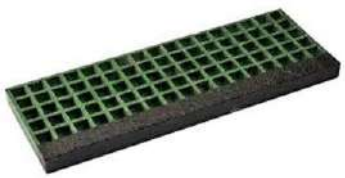
Typical DURAGRATE® Panels		
THICKNESS	**MESH PATTERN**	**PANEL SIZES**
1" (25.4mm)	1-1/2" (38.1mm) Square	3' x 10' (914.4mm x 3048.0mm), 4' x 8' (1219.2mm x 2438.4mm), 4' x 12' (1219.2mm x 3657.6mm)
1" (25.4mm)	1"x 4" (25.4mm x 101.6mm) Rectangular	3' x 10' (914.4mm x 3048.0mm), 4' x 12' (1219.2mm x 3657.6mm)
1-1/2" (38.1mm)	3/4" x 3/4"(19.1mm x 19.1mm) Mini-Grid™	4' x 12' (1219.2mm x 3657.6mm)
1-1/2" (38.1mm)	1-1/2" x 6"(38.1 mm x 152.4 mm) Rectangular	4' x 12' (1219.2mm x 3657.6mm)
1-1/2" (38.1mm)	1-1/2" (38.1mm) Square	3' x 10' (914.4mm x 3048.0mm), 4' x 8' (1219.2mm x 2438.4mm), 4' x 12' (1219.2mm x 3657.6mm), 5' x 10' (1524.0mm x 3048.0mm)
2" (50.8mm)	2" (50.8mm) Square	4' x 12' (1219.2mm x 3657.6mm)

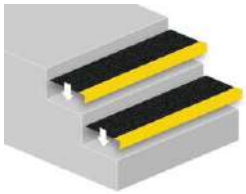


Stair Tread

Thickness	Mesh	Panel Size	Maximum Span for 300 lbs. (136kg) at Mid-Span		Panel Weight	Open Area
			1/8" (3.2 mm) or less deflection	1/4"(6.4mm) or less deflection		
1-1/2" (38.1mm)	1-1/2" x 6" (38.1mm x 152.4mm)	22-1/2" x 10' (571.5mm x 3048mm)	31" (787.4mm)	38" (965.2mm)	60 lbs. (27.2kg)	67%





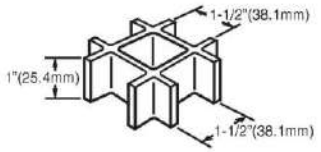


Load Tables

1" (25.4mm) THICK 1-1/2" (38.1mm) SQUARE MESH

A=3.62 x 10^3mm²/m of width
I=1.91 x 10^5mm⁴/m of width
S=1.56 x 10^4mm³/m of width

1" (25.4mm) bearing bars: Values per meter of width
Open Space = 70%
Approx. Weight = 12.7 kg/sq. m

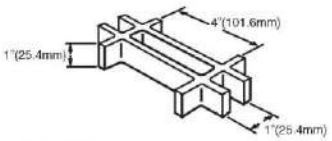


SPAN MM		LOAD 3	3.5	4	4.5	5	6	8	10	SAFE LOAD 5:1 SAFETY FACTOR	DEFLECTION	E x 10^{10} N/m²
400	Δu	<0.39	<0.46	0.52	0.59	0.65	0.78	1.04	1.30	38	4.95	1.34
	Δc	<1.56	<1.82	2.08	2.34	2.60	3.13	4.17	5.21	8	4.17	
600	Δu	1.92	2.24	2.56	2.88	3.20	3.84	5.12	6.40	19	12.16	1.38
	Δc	5.12	5.98	6.83	7.68	8.54	10.24	13.66	17.07	6	10.24	
800	Δu	5.98	6.98	7.98	8.98	9.97	11.97	15.96		10	19.95	1.4
	Δc	11.97	13.96	15.96	17.95					4	15.96	
1000	Δu	14.40	16.80							6	28.81	1.42
	Δc									3	23.04	

1" (25.4mm) THICK 1" x 4" (25.4mm x 101.6mm) RECTANGULAR MESH

A=5.44 x 10^3mm²/m of width
I=3.00 x 10^5mm⁴/m of width
S=2.31 x 10^4mm³/m of width

1" (25.4mm) bearing bars: Values per meter of width
Open Space = 69%
Approx. Weight = 13.7 kg/sq. m



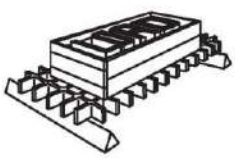
SPAN MM		LOAD 3	3.5	4	4.5	5	6	8	10	SAFE LOAD 5:1 SAFETY FACTOR	DEFLECTION	E x 10^{10} N/m²
400	Δu	<0.24	<0.28	<0.32	0.36	0.40	0.48	0.64	0.81	55	4.43	1.38
	Δc	<0.97	<1.13	<1.29	1.45	1.61	1.93	2.58	3.22	11	3.54	
600	Δu	1.12	1.30	1.49	1.68	1.86	2.24	2.98	3.73	28	10.43	1.51
	Δc	2.98	3.48	3.97	4.47	4.97	5.96	7.95	9.93	8	7.95	
800	Δu	3.38	3.94	4.50	5.06	5.63	6.75	9.00	11.25	14	15.75	1.58
	Δc	6.75	7.88	9.00	10.13	11.25	13.50	18.00		6	13.50	
1000	Δu	7.89	9.21	10.52	11.84	13.15	15.78			10	26.30	1.65
	Δc	12.63	14.73	16.84						5	21.04	

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

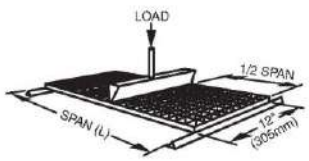
c IS CONCENTRATED LOAD KN/m OF WIDTH
Δc IS DEFLECTION UNDER CONCENTRATED LOAD(mm)
u IS UNIFORM LOAD KN/m²
Δu IS DEFLECTION UNDER UNIFORM LOAD(mm)

NOTE: ALL TABLE VALUES ARE TYPICAL

Uniform Load

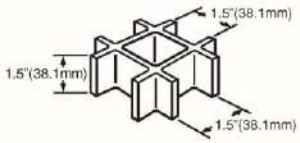


Concentrated Load



Load Tables

1-1/2" (38.1mm) THICK 1-1/2" (38.1mm) SQUARE MESH

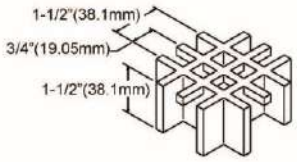


A=6.03 x 10^3mm²/m. of width
I=6.96 x 10^5mm⁴/m of width
S=3.49 x 10^4mm³/m of width

1-1/2" (38.1mm) bearing bars: Values per meter of width
Open Space = 70%
Approx. Weight = 18.6 kg/sq. m

SPAN MM		LOAD 3	3.5	4	4.5	5	6	8	10	SAFE LOAD 5:1 SAFETY FACTOR	DEFLECTION	E x 10^{10} N/m²
400	Δu	<0.14	<0.17	<0.19	<0.22	<0.24	0.29	0.38	0.48	58	2.78	1.00
	Δc	<0.57	<0.67	<0.77	0.86	0.96	1.15	1.53	1.92	17	3.26	
600	Δu	<0.63	0.74	0.84	0.95	1.05	1.26	1.69	2.11	39	8.22	1.15
	Δc	<1.69	1.97	2.25	2.53	2.81	3.37	4.50	5.62	12	6.75	
800	Δu	1.81	2.11	2.41	2.72	3.02	3.62	4.83	6.03	22	13.27	1.27
	Δc	3.62	4.22	4.83	5.43	6.03	7.24	9.65	12.07	9	10.86	
1000	Δu	4.32	5.04	5.76	6.48	7.20	8.63	11.51	14.39	14	20.15	1.30
	Δc	6.91	8.06	9.21	10.36	11.51	13.82			7	16.12	
1200	Δu	8.56	9.98	11.41	12.84	14.26	17.11			8	22.82	1.36
	Δc	11.41	13.31	15.21	17.11					5	19.02	

1-1/2" (38.1mm) THICK 3/4" (19.1mm) SQUARE MESH



A=7.66 x 10^3mm²/m of width
I=9.96 x 10^5mm⁴/m of width
S=4.83 x 10^4mm³/m of width

1-1/2" (38.1mm) bearing bars: Values per meter of width
Open Space = 44%
Approx. Weight =21.5 kg/sq. m

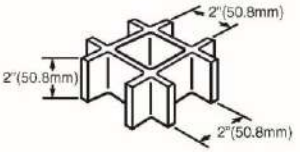
SPAN MM		LOAD 3	3.5	4	4.5	5	6	8	10	SAFE LOAD 5:1 SAFETY FACTOR	DEFLECTION	E x 10^{10} N/m²
400	Δu	<0.40	<0.47	0.53	0.60	0.67	0.80	1.06	1.33	111	14.77	0.36
	Δc	<1.60	1.86	2.13	2.39	2.66	3.19	4.26	5.32	22	11.71	
600	Δu	1.12	1.31	1.49	1.68	1.87	2.24	2.98	3.73	52	19.40	0.65
	Δc	2.98	3.48	3.98	4.48	4.97	5.97	7.96	9.95	15	14.92	
800	Δu	2.84	3.31	3.78	4.26	4.73	5.68	7.57	9.46	28	26.49	0.81
	Δc	5.68	6.62	7.57	8.51	9.46	11.35	15.14	18.92	11	20.81	
1000	Δu	5.45	6.36	7.27	8.17	9.08	10.90	14.53	18.16	18	32.69	1.03
	Δc	8.72	10.17	11.62	13.08	14.53	17.44			9	26.16	
1200	Δu	10.58	12.34	14.11	15.87	17.63	21.16			10	35.27	1.10
	Δc	14.11	16.46	18.81	21.16					6	28.21	

Load Tables

2" (50.8mm) THICK 2" (50.8mm) SQUARE MESH

A=6.09 x 10^3mm²/m of width
I=13.11 x 10^5mm⁴/m of width
S=5.05 x 10^4mm³/m of width

2" (50.8mm) bearing bars: Values per meter of width
Open Space = 72%
Approx. Weight = 19.5 kg/sq. m

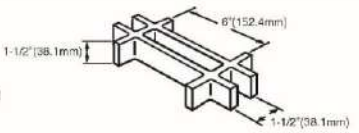


SPAN MM		LOAD 3	3.5	4	4.5	5	6	8	10	SAFE LOAD 5:1 SAFETY FACTOR	DEFLECTION	E x 10^{10} N/m²
400	Δu	<0.08	<0.10	<0.11	<0.12	<0.14	<0.16	<0.22	0.27	56	1.53	0.93
	Δc	<0.33	<0.38	<0.44	<0.49	<0.55	0.66	0.87	1.09	22	2.41	
600	Δu	<0.31	<0.36	0.42	0.47	0.52	0.62	0.83	1.04	47	4.88	1.24
	Δc	<0.83	<0.97	1.11	1.25	1.38	1.66	2.21	2.77	14	3.88	
800	Δu	0.87	1.02	1.16	1.31	1.45	1.74	2.32	2.91	28	8.14	1.40
	Δc	<1.74	2.03	2.32	2.62	2.91	3.49	4.65	5.81	11	6.39	
1000	Δu	2.03	2.36	2.70	3.04	3.38	4.05	5.41	6.76	18	12.16	1.47
	Δc	3.24	3.78	4.32	4.86	5.41	6.49	8.65	10.81	9	9.73	
1200	Δu	4.04	4.71	5.38	6.06	6.73	8.08	10.77	13.46	13	17.50	1.53
	Δc	5.38	6.28	7.18	8.08	8.97	10.77	14.36	17.95	4	7.18	
1400	Δu	7.29	8.51	9.72	10.94	12.15	14.58			9	21.87	1.57
	Δc	8.33	9.72	11.11	12.50	13.89	16.66			3	8.33	

1-1/2" (38.1mm) THICK 1-1/2" x 6" (38.1mm x 152.4mm) RECTANGULAR

A=8.01 x 10^3mm²/m of width
I=7.64 x 10^5mm⁴/m of width
S=3.81 x 10^4mm³/m of width

1-1/2" (38.1mm) bearing bars: Values per meter of width
Open Space = 67%
Approx. Weight = 18.6 kg/sq. m



SPAN MM		LOAD 3	3.5	4	4.5	5	6	8	10	SAFE LOAD 5:1 SAFETY FACTOR	DEFLECTION	E x 10^{10} N/m²
400	Δu	<0.20	<0.23	<0.26	<0.30	0.33	0.39	0.52	0.66	107	7.02	0.73
	Δc	<0.79	<0.92	1.05	1.18	1.31	1.57	2.10	2.62	21	5.51	
600	Δu	<0.64	0.74	0.85	0.96	1.06	1.28	1.70	2.13	47	10.00	1.14
	Δc	1.70	1.99	2.27	2.55	2.84	3.40	4.54	5.67	14	7.94	
800	Δu	1.61	1.88	2.14	2.41	2.68	3.22	4.29	5.36	24	12.86	1.43
	Δc	3.22	3.75	4.29	4.82	5.36	6.43	8.57	10.72	9	9.65	
1000	Δu	3.49	4.07	4.65	5.23	5.81	6.97	9.30	11.62	15	17.43	1.61
	Δc	5.58	6.51	7.44	8.37	9.30	11.16			7	13.01	
1200	Δu	6.81	7.94	9.07	10.21	11.34	13.61			9	20.42	1.71
	Δc	9.07	10.59	12.10	13.61					5	15.12	