

## CHEMICAL COMPATIBILITY GUIDES

The information in these corrosion compatibility guides is correct to the best of Seasafe's knowledge. The information is based on considerable experience with fiberglass grating in corrosive environments. In actual practice, you may find mixtures of corrosives. To be sure the resin selection meets our requirements, we suggest you test our products under actual operating conditions. Test coupons can be supplied, per your request. Seasafe's responsibility for claims arising from breach of warranty, negligence or otherwise, is limited to the purchase price of the grating sold by Seasafe. Consult Seasafe for corrosion guidelines for chemicals, concentrations and temperatures not shown.

### *GatorGrate Molded Grating* (See reverse side for GatorDeck pultruded grating)

Chemical	Concentration	Temp	Resin		
	(%)	(°F)	PFR	IFR	VFR
Acetic Acid	50	Max	N	C	C
Acetone	100	75	N	I	F
Alcohols	100	120	I	I	C
Alum	All	Max	I	C	C
Aluminum Chloride	All	Max	I	C	C
Aluminum Fluoride	20	75	N	I	C
Ammonium Hydroxide	30	75	I	N	C
Ammonium Salts-Neutral	All	120	F	C	C
Ammonium Salts-Aggressive	All	75	N	I	F
Aromatic Solvents	All	75	N	N	T
Barium Salts	All	Max	I	C	C
Benzene	100	140	N	I	I
Black Liquor (Pulp Mill)	All	Max	T	I	C
Bleach Liquor (Pulp Mill)	All	Max	T	I	C
Calcium Hydroxide	25	Max	N	F	C
Calcium Hypochlorite	All	Max	N	I	C
Calcium Salts	All	Max	I	C	C
Carbon Tetrachloride	100	75	N	I	C
Chlorinated Hydrocarbons	100	75	N	T	T
Chlorine Dioxide	Sat	140	N	N	C
Chlorine Water	Sat	120	I	I	C
Chlorine Wet Gas	Sat	Max	N	N	C
Chlorobenzene	100	75	N	N	F
Chlorobenzene	All	100	N	N	C
Chloroform	100	75	N	N	N
Chromic Acid	50	140	N	F	F
Citric Acid	All	Max	I	C	C
Copper Cyanide Plating	All	125	T	F	C
Copper Salts	All	Max	I	C	C
Crude Oil (Sweet or Sour)	All	Max	I	C	C
Dichlorobenzene	100	75	N	N	T
Ethers		75	N	N	T
Ferric Chloride	100	Max	F	C	C
Ferric Salts	All	Max	F	C	C
Fluoride Salts+HCl	All	75	T	F	C
Fluosilicic Acid	10	75	N	F	C
Formaldehyde	37	150	N	I	C
Formic Acid	25	100	N	F	C
Fuel (Diesel, Jet, Gasoline)	All	100	I	C	C
Glycerine	100	Max	I	C	C
Green Liquor (Pulp Mill)	All	Max	N	N	C
Hexane	100	130	T	C	C
Hydrobromic Acid	48	Max	I	F	F
Hydrochloric Acid	10	Max	N	F	C

Chemical	Concentration	Temp	Resin		
	(%)	(°F)	PFR	IFR	VFR
Hydrochloric Acid	30	Max	N	F	F
Hydrochloric Acid	All	180	N	N	I
Hydrocyanic Acid	All	Max	N	I	C
Hydrofluoric Acid	20	75	N	N	F
Hydrogen Peroxide	30	75	N	N	C
Lactic Acid	100	Max	N	C	C
Lime Slurry	Sat	Max	F	C	C
Lithium Salts	All	Max	F	C	C
Magnesium Salts	All	Max	F	C	C
Maleic Acid	100	Max	F	F	C
Mercury Chloride	100	Max	F	C	C
Nickel Salts	All	Max	F	C	C
Nitric Acid	20	120	N	F	C
Nitric Acid	35	100	N	N	C
Nitric Acid	40	Ambient	N	N	I
Nitric, Hydrofluoric	20:2	75	N	N	I
Nitrous Acid	10	75	I	C	C
Ozone (Sewage Treatment)		100	T	C	C
Perchloroethylene	100	75	N	N	F
Phenol	10	75	N	N	C
Phenol	88	Ambient	N	N	F
Phosphoric Acid	85	Max	N	C	C
Phosphoric Acid, Super	115	Max	N	I	C
Potassium Hydroxide	10	120	N	I	C
Potassium Salts	All	Max	T	C	C
Silver Nitrate	100	Max	F	C	C
Sodium Cyanide	All	75	N	I	C
Sodium Hydroxide	50	Max	N	I	C
Sodium Hydroxide	10	Max	N	N	C
Sodium Hypochlorite (Stable)	10	100	N	F	C
Sodium Salts-Neutral	All	Max	F	C	C
Sodium Salts-Aggressive	All	75	N	I	F
Sulfur Dioxide	Sat	Max	N	F	C
Sulfuric Acid	25	Max	N	F	C
Sulfuric Acid	50	Max	N	F	C
Sulfuric Acid	75	100	N	I	C
Toluene	100	120	N	I	F
Trisodium Phosphate	50	Max	N	I	C
Water (Fresh, Salt, Moderate DI)	100	Max	F	C	C
Wet Chlorine/Hydrochloric Acid	10-20	350	N	N	F
White Liquor (Pulp Mill)	All	Max	T	I	C
Zinc Chloride Plating	All	75	N	F	C
Zinc Salts	100	Max	F	C	C

C = Continuous exposure of the grating to the chemical listed, at the temperature listed.

F = Frequent exposure of the grating to spills, splashes and fumes from the chemical listed, at the temperature listed.

I = Infrequent exposure of the grating to spills, splashes and fumes from the chemical listed, at the temperature listed and the spill immediately cleaned up or washed from the grating.

N = Not recommended for the chemical concentrations and temperatures listed.

T = Testing recommended.

Max = PFR: 140°F; IFR: 150°F; VFR: 180°F.

# CHEMICAL COMPATIBILITY GUIDES

## *GatorDeck Pultruded Grating* (See reverse side for GatorGrate molded grating)

Chemical	Concentration	Max °F	Resin	
			ICG	VFR
Acetic Acid	50	Max	C	C
Acetone	100	75	NR	I
Alum	All	Max	C	C
Aluminum Chloride	All	Max	C	C
Aluminum Nitrate	All	75	F	F
Ammonium Bicarbonate	15/Sat	125/130	F	C
Ammonium Carbonate	NR/Sat	NR	NR	F
Ammonium Chloride	Sat	170/190	I	C
Ammonium Hydroxide	All	75	I	F
Ammonium Nitrate	Sat	160/190	F	C
Ammonium Sulfate	Sat	170/200	F	C
Aromatic Solvents	All	75	NR	T
Barium Salts	All	Max	C	C
Benzene	100	140	NR	I
Benzoic Acid	Sat	150/200	F	C
Borax	Sat	170/200	F	C
Calcium Carbonate	Sat	170/200	C	C
Calcium Chloride	Sat	170/200	C	C
Calcium Hydroxide	25	Max	I	F
Calcium Hypochlorite	All	Max	NR	F
Calcium Nitrate	Sat	180/200	F	F
Calcium Salts	All	Max	C	C
Carbon Tetrachloride	100	75	NR	F
Chlorinated Hydrocarbons	100	75	T	T
Chlorine, Dry Gas		140/170	T	I
Chlorine, Wet Gas	Sat	Max	NR	I
Chlorobenzene	100	75	NR	I
Citric Acid	All	Max	C	C
Copper Salts	All	Max	C	C
Crude Oil (Sweet or Sour)	All	Max	C	C
Cyclohexane	NR	NR	NR	NR
Diesel Fuel	100	160/180	C	C
Ethanol	50	75/90	C	C
Ethylene Chloride	NR	NR	NR	NR
Ethylene Glycol	100	90/200	C	C
Fatty Acids	Sat	180/200	C	C
Ferric Chloride	100	Max	C	C
Ferric Nitrate	Sat	170/200	C	C
Ferric Salts	All	Max	C	C
Fluoboric Acid	NR/Sat	NR/165	NR	I
Formaldehyde	37	150	F	I
Fuel (Diesel, Jet, Gasoline)	All	100	C	C
Glucose	100	170/200	C	C
Glycerine	100	Max	C	C
Heptane	100	110/120	C	C
Hexane	100	90/130	C	C
Hydrochloric Acid	10	Max	F	F
Hydrochloric Acid	30	Max	F	F
Hydrofluoric Acid	20	75	NR	I
Hydrogen Bromide, Dry	100	190/200	F	F
Hydrogen Bromide, Wet	100	75/130	F	F
Hydrogen Peroxide	30	75	I	F
Hydrogen Sulfide, Dry	100	170/210	C	C
Hydrogen Sulfide, Wet	100	170/210	C	C
Hypochlorous Acid	20	80/150	F	F
Isopropyl Alcohol	NR/15	NR/80	NR	I
Kerosene	100	140/180	C	C
Lactic Acid	100	Max	C	C
Lead Acetate	Sat	170/200	C	C
Lead Chloride	Sat	140/200	C	C
Lead Nitrate	Sat	-/200	C	C
Lime Slurry	Sat	Max	C	C

Chemical	Concentration	Max °F	Resin	
			ICG	VFR
Linseed Oil	100	150/190	C	C
Lithium Chloride	Sat	150/190	C	C
Lithium Salts	All	Max	C	C
Magnesium Carbonate	Sat	140/170	C	C
Magnesium Chloride	Sat	170/200	C	C
Magnesium Hydroxide	Sat	150/190	C	C
Magnesium Nitrate	Sat	140/180	C	C
Magnesium Salts	All	Max	C	C
Magnesium Sulfate	Sat	170/190	C	C
Mercuric Chloride	Sat	150/190	C	C
Mercurous Chloride	Sat	140/180	C	C
Mineral Oils	100	170/200	C	C
Monochlorobenzene	NR	NR	NR	NR
Naptha	100	140/170	C	C
Nickel Chloride	Sat	170/200	C	C
Nickel Nitrate	Sat	170/200	C	C
Nickel Salts	All	Max	C	C
Nickel Sulfate	Sat	170/200	C	C
Nitric Acid	20	120	I	F
Nitric Acid	35	100	I	F
Nitrous Acid	100	75	C	C
Oxalic Acid	All	75/120	C	C
Ozone (Sewage Treatment)		100	C	C
Phosphoric Acid	85	Max	F	C
Phosphoric Acid, Super	115	Max	I	F
Potassium Aluminum Sulfate	Sat	170/200	C	C
Potassium Chloride	Sat	170/200	C	C
Postassium Dichromate	Sat	170/200	C	C
Potassium Hydroxide	10	120	NR	F
Potassium Nitrate	Sat	170/200	C	C
Potassium Permanganate	100	80/210	F	F
Potassium Salts	All	Max	C	C
Potassium Sulfate	Sat	170/20	C	C
Propylene Glycol	All	170/200	C	C
Sodium Acetate	Sat	160/200	C	C
Sodium Benzoate	Sat	170/200	C	C
Sodium Bircarbonate	Sat	160/175	C	C
Sodium Bisulfate	All	170/200	C	C
Sodium Bromide	All	170/200	C	C
Sodium Carbonate	10/35	80/160	F	F
Sodium Chloride	Sat	170/200	C	C
Sodium Cyanide	All	75	F	F
Sodium Hydroxide	50	Max	NR	F
Sodium Hydroxide	25	Max	NR	F
Sodium Monophosphate	Sat	170/200	C	C
Sodium Nitrate	Sat	170/200	C	C
Sodium Salts - Neutral	All	Max	C	C
Sodium Sulfate	Sat	170/200	C	C
Sodium Thiosulfate	All	100/120	C	C
Stannic Chloride	Sat	160/190	C	C
Styrene	NR	NR	NR	NR
Sulfur Trioxide	100	80/200	F	C
Sulfuric Acid	25	Max	I	F
Tartaric Acid	Sat	170/200	F	C
Toluene	100	120	NR	I
Urea	Sat	130/140	C	C
Vinegar	100	170/200	C	C
Water (Fresh, Salt, Moderate DI)	100	Max	C	C
Water, Sea	Sat	170/190	C	C
Xylene	NR	NR	NR	NR
Zinc Chloride Plating	All	75	F	F
Zinc Salts	100	Max	C	C

### Explanation of Compatibility Code:

C = Continuous exposure of the grating to the chemical listed, at the temperature listed.

F = Frequent exposure of the grating to spills, splashes and fumes from the chemical listed, at the temperature listed.

I = Infrequent exposure of the grating to spills, splashes and fumes from the chemical listed, at the temperature listed.

NR = Not recommended for the chemical concentrations and temperatures listed.

T = Testing recommended.

# TECH SUPPORT

## HOW TO INCREASE THE LOAD - CARRYING CAPABILITY OF GATORGRATE (SEASAFE'S MOLDED GRATING)

GatorGrate's integrally molded one-piece construction offers the outstanding benefit of increasing its loads - carrying capability **by utilizing support under both the bearing bars (width dimension) and the cross bars (length dimension)**. The added load - carrying capability is not possible with pultruded FRP grating or standard metal grating.

Often the total cost of a potential application can be reduced by using this technique, because the use of cross supports may allow the selection of molded grating 1" thick instead of 1-1/2" thick (or 1-1/2" thick instead of 2" thick).

**For GatorGrate Square Grids -**  
GatorGrate's 1" (1-1/2" x 1-1/2"), 1-1/2" (1-1/2" x 1-1/2" and 2" (2" x 2"))

If bearing and cross supports are spaced equally, the load-carrying capability is doubled. If bearing and cross supports are not spaced equally, deflection can be calculated using the appropriate design data tables in the GatorGrate brochure.

**For GatorGrate Rectangular Grids -**  
GatorGrate's 1" (1" x 4") standard and 1" (1" x 4") heavy duty.

Since rectangular grids do not support loads equally in both directions (there is more support in the bearing bar direction than in the cross bar direction) the following multiplier factors can be used to calculate loads carried by supported cross bars:

(A) For 1" (1 x 4") standard, multiply the chart load \* by 0.45.

(B) For 1" (1" x 4") heavy duty, multiply the chart load \* by 0.40.

\*Use the appropriate design data tables in the GatorGrate brochure.

**For examples see the reverse side of this page.**

### Examples - - Rectangular Grids

(A) **Application:** 48" wide platform for use by workman with tools.

**Criteria:** 300 lbs. concentrated load with maximum deflection of .250".

Using GG-SD10, or 48" x 144" panel, if supported only in the bearing bar direction has a deflection of .250" with a 180 lb. concentrated load. If we use cross supports every 48" we gain an additional 81 lbs. (.45 x 180). This is not enough (180 + 81 = 261 lbs.) However, if we use cross supports every 36" we add 144 lbs. (.45 x 320). This combination gives us a satisfactory 324 lbs. (180 + 144).

(B) **Application:** 36" wide aisleway for use by heavy foot traffic.

**Criteria:** 400 lbs. concentration load with maximum deflection of .250".

Using GG-HD10, our 36" x 120" panel, if supported only in the bearing bar direction has a deflection of .250" with a 352 lbs. concentrated load. Using cross supports every 48", we gain 82 lbs. (.40 x 206). This combination gives us a satisfactory 434 lbs. (352 + 82).

### Examples - - Square Grids

(A) **Application:** 48" wide walkway for use by maintenance personnel.

**Criteria:** 300 lbs. concentrated load with maximum deflection of .250".

Using a 48" x 144" panel of GG1510, we have a .250" deflection with a 156 lb. concentrated load when supported across the 48" width. By using cross supports every 48", we gain an additional 156 lbs. and have a successful 312 lbs. (156 + 156).

(B) **Application:** 48" wide platform at elevation of 250 feet with heavy foot traffic.

**Criteria:** Maximum allowable deflection of .125" with 400 lb. concentrated load.

Using a 48" x 144" panel of GG1515, we see that a concentrated load of 445 lbs. produces a .250" deflection. (Since load and deflection are proportional, we calculate that the load for .125" deflection is 222.5 lbs.) (445 lbs. divided by two); To make this an acceptable application, we install cross supports every 48" and thereby double our load-carrying capability . . . 222.5 + 222.5 = 445 lbs. Eureka - success!