

# Chemical Resistance Guide

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Chemical environment		Concentration	Temperature	Interstruct GRP molded gratings			
		%	°C	VE-FR	Super VE-FR	ISO-FR	FD-FR
ACETIC ACID	CH <sub>3</sub> COOH	50	MAX	C	C	C	C
ACETONE	CH <sub>3</sub> COCH <sub>3</sub>	100	23,9	S	S	I	I
ALCOHOLS	General	100	48,9	C	C	I	I
ALUM	Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>	ALL	MAX	C	C	C	C
ALUMINUM CHLORIDE	AlCl <sub>3</sub>	ALL	MAX	C	C	C	C
ALUMINUM FLUORIDE	Al(OH) <sub>3</sub>	20	23,9	C	C	I	I
AMMONIUM HYDROXIDE	NH <sub>4</sub> OH	30	23,9	C	C	N	N
AMMONIUM SALTS-NEUTRAL	General	ALL	48,9	C	C	C	C
AMMONIUM SALTS-AGGRESSIVE	General	ALL	23,9	S	C	I	I
AROMATIC SOLVENTS	General	ALL	23,9	T	T	N	N
BARIUM SALTS	General	ALL	MAX	C	C	C	C
BENZENE	C <sub>6</sub> H <sub>6</sub>	100	60	I	S	I	I
BLACK LIQUOR (pulp mill)	HCN	ALL	MAX	C	C	I	I
BLEACH LIQUOR (pulp mill)	NaOCl	ALL	MAX	C	C	I	I
CALCIUM HYDROXIDE	Ca(OH) <sub>2</sub>	25	MAX	C	C	S	S
CALCIUM HYPOCHLORITE	Ca(ClO) <sub>2</sub>	ALL	MAX	C	C	I	I
CALCIUM SALTS	General	ALL	MAX	C	C	C	C
CARBON TETRACHLORIDE	CCl <sub>4</sub>	100	23,9	C	C	I	I
CHLORINATED HYDROCARBONS	General	100	23,9	T	T	T	T
CHLORINE DIOXIDE	ClO <sub>2</sub>	SAT	60	C	C	N	N
CHLORINE WATER	Cl <sub>2</sub> (H <sub>2</sub> O)(HOCl)	SAT	48,9	C	C	I	I
CHLORINE, WET	Cl(H <sub>2</sub> O)	SAT	MAX	C	C	N	N
CHLOROBENZENE	C <sub>6</sub> H <sub>5</sub> Cl	100	23,9	S	S	N	N
CHLOROBENZENE	C <sub>6</sub> H <sub>5</sub> Cl	ALL	Up to 37,8	C	C	N	N
CHLOROFORM	CHCl <sub>3</sub>	100	23,9	N	N	N	N
CHROMIC ACID	CrO <sub>3</sub>	50	60	S	S	S	S
CITRIC ACID		ALL	MAX	C	C	C	C
COPPER CYANIDE PLATING	Cu(CN) <sub>2</sub>	ALL	51,7	C	C	S	S
COPPER SALTS	General	ALL	MAX	C	C	C	C
CRUDE OIL (sweet or sour)	General	ALL	MAX	C	C	C	C
DICHLOROBENZENE	C <sub>6</sub> H <sub>4</sub> Cl <sub>2</sub>	100	23,9	T	S	N	N
ETHERS	General		23,9	T	T	N	N
FERRIC CHLORIDE	FeCl <sub>3</sub>	100	MAX	C	C	C	C
FERRIC SALTS	General	ALL	MAX	C	C	C	C
FLUORIDE SALTS + HCl	General	ALL	23,9	C	C	S	S
FLUOSILICIC ACID	H <sub>2</sub> SiF <sub>6</sub>	10	23,9	C	C	S	S
FORMALDEHYDE	HCHO	37	65,6	C	C	I	I
FORMIC ACID	HCOOH	25	37,8	C	C	S	S
FUEL (diesel, jet, gasoline)	General	ALL	37,8	C	C	C	C
GLYCERINE	(CH <sub>2</sub> OH) <sub>2</sub> CHOH	100	MAX	C	C	C	C
GREEN LIQUOR (pulp mill)		ALL	MAX	C	C	N	N
HYDROBROMIC ACID	HBr	48	MAX	S	S	S	S
HYDROCHLORIC ACID	HCl	10	MAX	C	C	S	S
HYDROCHLORIC ACID	HCl	30	MAX	CS	C	S	S
HYDROCHLORIC ACID (concentrated)	HCl	ALL	Up to 82,2	I	C	N	N
HYDROCYANIC ACID	HCN	ALL	MAX	C	C	I	I

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

S = Frequent exposure of the grating to splashes and spills from the chemical environment listed with that environment at the temperature listed.

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

N = Not recommended for the concentrations and temperatures listed.

T = Test.

Super VE-FR series may require benzoyl peroxide-DMA cure system to increase life.

Consult Fiberstruct for corrosion recommendations at concentrations, temperatures or chemicals not listed in this guide.

Max recommended operating temp is 82°C for VE-FR, 65°C for ISO-FR series, and FD-FR series.

The information in this Chemical Resistance Guide is correct to the best of Fiberstruct's knowledge.

It is based on extensive experience with fiberglass grating in corrosive applications. Because actual use

conditions differ and mixtures of corrosives will occur in service, the end user must test for use under actual conditions.

Fiberstruct's responsibility for claims arising from breach of warranty, negligence or otherwise

is limited to the purchase price of the material sold by Fiberstruct. Test coupons are available upon specific request.

Chemical environment		Concentration	Temperature	Interstruct GRP molded gratings			
		%	°C	VE-FR	Super VE-FR	ISO-FR	FD-FR
HYDROFLUORIC ACID	HF	20	23,9	S	C	N	N
HYDROGEN PEROXIDE	H <sub>2</sub> O <sub>2</sub>	30	23,9	C	C	N	N
LACTIC ACID	CH <sub>3</sub> CHOHCOOI	100	MAX	C	C	C	C
LIME SLURRY		SAT	MAX	C	C	C	C
LITHIUM SALTS	General	ALL	MAX	C	C	C	C
MAGNESIUM SALTS	General	ALL	MAX	C	C	C	C
MALEIC ACID	(HC.COOH) <sub>2</sub>	100	MAX	C	C	S	S
MERCURY CHLORIDE	HgCl <sub>2</sub>	100	MAX	C	C	C	C
NICKEL SALT		ALL	MAX	C	C	C	C
NITRIC ACID	HNO <sub>3</sub>	20	48,9	C	C	S	S
NITRIC ACID	HNO <sub>3</sub>	35	37,8	C	C	N	N
NITRIC ACID	HNO <sub>3</sub>	40	Ambient	I	C	N	N
NITRIC, HYDROFLUORIC		20:2	23,9	I	C	N	N
NITROUS ACID		10	23,9	C	C	C	C
OZONE for SEWAGE TREATMENT			37,8	C	C	C	C
PERCHLOROETHYLENE	CCl <sub>2</sub>	100	23,9	S	C	N	N
PHENOL	C <sub>6</sub> H <sub>5</sub> OH	10	23,9	C	C	N	N
PHENOL	C <sub>6</sub> H <sub>5</sub> OH	88	Ambient	S	C	N	N
PHOSPHORIC ACID	H <sub>3</sub> PO <sub>4</sub>	85	MAX	C	C	C	C
PHOSPHORIC ACID, super	H <sub>3</sub> PO <sub>4</sub>	115	MAX	C	C	I	I
POTASSIUM HYDROXIDE	KOH	10	48,9	C	C	I	I
POTASSIUM SALTS	General	ALL	MAX	C	C	C	C
SILVER NITRATE	AgNO <sub>3</sub>	100	MAX	C	C	C	C
SODIUM CYANIDE	NaCN	ALL	23,9	C	C	I	I
SODIUM HYDROXIDE	NaOH	10	MAX	C	C	I	I
SODIUM HYDROXIDE	NaOH	50	MAX	C	C	N	N
SODIUM HYPOCHLORITE (stable)	NaOCl	10	37,8	C	C	S	S
SODIUM SALTS-NEUTRAL	General	ALL	MAX	C	C	C	C
SODIUM SALT-AGGRESSIVE	SO <sub>2</sub>	ALL	23,9	S	C	I	I
SULFUR DIOXIDE	H <sub>2</sub> SO <sub>4</sub>	SAT	MAX	C	C	S	S
SULFURIC ACID	H <sub>2</sub> SO <sub>4</sub>	25	MAX	C	C	S	S
SULFURIC ACID	H <sub>2</sub> SO <sub>4</sub>	50	MAX	C	C	S	S
SULFURIC ACID	H <sub>2</sub> SO <sub>4</sub>	75	37,8	C	C	I	I
TOLUENE	C <sub>6</sub> H <sub>5</sub> CH <sub>3</sub>	100	48,9	S	C	I	I
TRICHLOROETHANE 1,1,1	CICH <sub>2</sub> CHCl <sub>2</sub>	ALL	23,9	S	C	I	I
TRISODIUM PHOSPHATE	Na <sub>3</sub> PO <sub>4</sub>	50	MAX	C	C	I	I
WATER (fresh, salt, moderate D.I.)	H <sub>2</sub> O	100	MAX	C	C	C	C
WET CHLORINE/hydrochloric acid		10-20	Up to 176,7	S	C	N	N
WHITE LIQUOR (pulp mill)	ZnCl <sub>2</sub>	ALL	MAX	C	C	I	I
ZINC CHLORIDE PLATING		ALL	23,9	C	C	S	S
ZINC SALTS		100	MAX	C	C	C	C

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