



**FUTURE PIPE INDUSTRIES**

YELLOW BOX

RED BOX

FIBERGLASS LINEPIPE

TUBING & CASING

**CHEMICAL RESISTANCE CHART GUIDE**

CHEMICAL	Maximum Oper Temp (Deg F)	
	Without Liner	With Liner
ACETIC ACID-10%	150	200
ACETIC ACID-75%	100	120
ACETIC ACID-GLACIAL	NR	NR
ACETONE	NR	120
ACRYLIC ACID	NR	100
ADIPIC ACID, SOLUTION	200	200
AIR	210	230
ALCOHOL, ETHYL	150	150
ALCOHOL, ISOPROPYL	150	150
ALCOHOL, METHYL	150	150
ALCOHOL, METHYL ISOBUTYL	150	150
ALCOHOL, SECONDARY BUTYL	150	150
ALLYL CHLORIDE	100	100
ALUMINUM CHLORIDE	200	230
ALUMINUM FLUORIDE	100	150
ALUMINUM HYDROXIDE	100	150
ALUMINUM NITRATE	200	230
ALUMINUM SULFATE	200	230
ALUM	200	230
AMMONIA GAS-DRY	150	230
AMMONIA-WET	NR	100
AMMONIUM CARBONATE	100	150
AMMONIUM CHLORIDE	200	230
AMMONIUM FLUORIDE-25%	100	150
AMMONIUM HYDROXIDE-10%	100	150
AMMONIUM HYDROXIDE-28%	NR	100
AMMONIUM NITRATE	200	230
AMMONIUM PERSULFATE	NR	100
AMMONIUM PHOSPHATE	150	150
AMMONIUM SULFATE	200	230
AMYL ACETATE	NR	100
AMYL CHLORIDE	NR	100
ANILINE	NR	100
BARIUM CARBONATE	200	230
BARIUM CHLORIDE	200	230
BARIUM HYDROXIDE-10%	200	230
BARIUM SULFATE	200	230
BARIUM SULFIDE	200	230

CHEMICAL	Maximum Oper Temp (Deg F)	
	Without Liner	With Liner
BENZENE	100	150
BENZENE SULFONIC ACID	NR	100
BENZOIC ACID	NR	100
BORAX	200	230
BORIC ACID	150	200
BROMIC ACID	100	150
BROMINE	NR	NR
BUTADINE	100	100
BUTANE	100	100
BUTYL ACETATE	NR	100
BUTYL CELLOSOLVE	150	150
BUTYRIC ACID-50%	150	150
CALCIUM BISULFITE	200	200
CALCIUM CARBONATE	200	230
CALCIUM CHLORATE	200	200
CALCIUM CHLORIDE	200	230
CALCIUM HYDROXIDE-50%	200	200
CALCIUM HYPOCHLORITE-20%	NR	NR
CALCIUM NITRATE	200	230
CALCIUM SULFATE	200	230
CARBON BISULFIDE	NR	NR
CARBON DIOXIDE	200	230
CARBON TETRACHLORIDE	100	150
CARBONIC ACID	150	200
CASTOR OIL	200	200
CHLORINE	NR	NR
CLORINATED WATER 0-100 PPM	150	230
CHLOROACETIC ACID-25%	100	120
CHLOROBENZENE	100	150
CHLOROFORM	NR	100
CHROMIC ACID-10%	NR	150
CHROMIC FLUORIDE	NR	100
CITRIC ACID	200	230
COPPER CHLORIDE	200	230
COPPER FLUORIDE	200	230
COPPER NITRATE	200	230
COPPER SULFATE	200	200
CRUDE OIL-SOUR, SWEET	200	230



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CHEMICAL	Maximum Oper Temp (Deg F)	
	Without Liner	With Liner
DIACETONE ALCOHOL	150	150
DIMETHYLAMINE	NR	NR
O-DICHLOROBENZENE	100	150
DICHLOROETHYLENE	NR	100
DIETHYLENE TRIAMINE	NR	NR
ETHYL ACETATE	NR	150
ETHYL CELLOSOLVE	NR	100
ETHYL CHLORIDE	NR	100
ETHYL ETHER	NR	100
ETHYL CHLOROHYDRIN	NR	NR
ETHYL DIAMINE	NR	NR
ETHYL GLYCOL	200	200
ETHYLENE OXIDE	NR	NR
FATTY ACIDS	200	200
FERRIC CHLORIDE	150	230
FERRIC NITRATE	200	230
FERRIC SULFATE	200	200
FERROUS CHLORIDE	200	230
FERROUS SULFATE	200	200
FLUOROSILICIC ACID-10%	200	200
FORMALDEHYDE-40%	NR	100
FORMIC ACID-25%	NR	100
FREON	NR	150
GAS-NATURAL	200	230
GASOLINE-SOUR	200	230
GASOLINE-REFINED, ALL GRADES	150	150
GLUCOSE	200	230
GLYCERINE	200	230
GLYCOL, ETHYLENE	200	200
GLYCOL, PROPYLENE	200	230
HEPTANE	150	150
HEXANE	NR	100
HEXYLENE GLYCOL ALCOHOL	150	150
HYDRAULIC FLUID	200	200
HYDROBROMIC ACID-50%	NR	150
HYDROCHLORIC ACID-35%	100	150
HYDROCYANIC ACID-10%	NR	NR
HYDROFLUORIC ACID	NR	NR
HYDROGEN	150	150
HYDROGEN PEROXIDE-10%	NR	150
HYDROGEN PEROXIDE-30%	NR	75
HYDROGEN SULFIDE	150	200
HYPOCHLOROUS ACID-10%	200	200
JET FUEL	150	200
KEROSENE	200	230
LACTIC ACID	150	200
LAURIC ACID	200	200
LEAD ACETATE	200	230

CHEMICAL	Maximum Oper Temp (Deg F)	
	Without Liner	With Liner
LEVULINIC ACID-25%	200	200
MAGNESIUM CARBONATE	200	230
MAGNESIUM CHLORIDE	200	230
MAGNESIUM HYDROXIDE	120	200
MAGNESIUM NITRATE	200	230
MAGNESIUM SULFATE	200	230
MALEIC ACID	150	150
MERCURY	200	230
METHANE	200	230
METHYL ETHYL KETONE	NR	100
METHYL ISOBUTYL CARBITOL	NR	100
METHYL ISOBUTYL KETONE	100	150
MINERAL OILS	200	230
NAPHTHA	200	200
NAPHTHALENE	150	150
NATURAL GAS	200	230
NICKEL CHLORIDE	200	230
NICKEL NITRATE	200	200
NITRIC ACID-10%	NR	100
OIL, SOUR, CRUDE	200	230
OLEIC ACID	200	200
OXALIC ACID	200	200
PERCHLORIC ACID-70%	NR	100
PHENOL-5%	NR	150
PHOSPHORIC ACID-50%	NR	150
PHOSPHOROUS PENTOXIDE-50%	NR	100
PICKLING ACID	NR	120
PLATING SOLUTION	200	230
POTASSIUM BICARBONATE	200	230
POTASSIUM BROMIDE	200	200
POTASSIUM CARBONATE	200	230
POTASSIUM CHLORIDE	200	230
POTASSIUM DICHROMATE	200	230
POTASSIUM HYDROXIDE	100	200
POTASSIUM NITRATE	200	230
POTASSIUM PERMANGANATE-5%	150	200
POTASSIUM PERMANGANATE-10%	NR	150
POTASSIUM SULFATE	150	200
PROPANE	100	100
SILICIC ACID	200	200
SILVER NITRATE	200	200
SODIUM ACETATE	200	200
SODIUM BICARBONATE	200	230
SODIUM BISULFATE	200	230
SODIUM BROMIDE	200	200
SODIUM CARBONATE	150	200
SODIUM CHLORATE	200	230
SODIUM CHLORIDE	200	230



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	Without Liner	With Liner
SODIUM CYANIDE	200	230
SODIUM DICHROMATE	200	230
SODIUM FERROCYANIDE	200	230
SODIUM FLUORIDE	200	230
SODIUM HYDROXIDE	100	150
SODIUM HYPOCHLORITE	NR	NR
SODIUM METHOXIDE-40%	100	150
SODIUM NITRATE	200	230
SODIUM PEROXIDE	NR	75
SODIUM PHOSPHATE	200	200
SODIUM SILICATE	150	150
SODIUM SULFATE	200	230
SODIUM SULFITE	200	200
SODIUM THIOSULFATE	150	150
STANNIC CHLORIDE	200	230
STEARIC ACID	150	150
SULFUR DIOXIDE	NR	150
SULFURIC ACID-25%	NR	150

CHEMICAL	Maximum Oper Temp (Deg F)	
	Without Liner	With Liner
SULFURIC ACID-70%	NR	100
SULFUROUS ACID-5%	NR	150
TANNIC ACID	200	200
TARTARIC ACID	200	230
TOLUENE	NR	150
TRICHLOROACETIC ACID	NR	NR
TRICHLOROETHYLENE-100%	100	150
TRIETHYLAMINE	NR	100
TRISODIUM PHOSPHATE	150	150
TURPENTINE	NR	100
UREA	150	150
VINYL ACETATE	NR	150
WATER-DISTILLED, DEIONIZED	200	230
WATER-FRESH, PH 2-13	200	230
WATER-SALT, BRINE	200	230
XYLENE	150	150
ZINC CHLORIDE	200	230
ZINC SULFATE	200	230

This guide is prepared to assist potential user of RB & YB GRE pipe in determining the suitability of the pipe, which may be exposed to chemical & corrosive environments. The term resistance is used in the sense, which is commonly used in the pipe industry and not as the complete retention of all optical and mechanical properties.

The information provided herewith is based on resin coupon testing, corrosion resistance testing, field experience, published literature, resin manufacturers data, case history information and judgment. It is assumed that pipe and pipefitting are installed and used in accordance with normally accepted standard practices. Service life in aggressive chemicals depends upon the presence, type and thickness of the corrosion barrier and total wall thickness, concentration of chemicals, service temperature, and duration of use. It should be noted that the combination of chemicals are sometimes more aggressive than the individual chemical.

The recommended maximum temperature given is not always an absolute maximum acceptable service temperature. It is the highest temperature at which a resin or product has been tested, used or evaluated.

This guide is intended for use only as reference in evaluating RB & YB GRE pipe. It should be used for a general indication of chemical resistance. This data indicates that the pipe and fittings listed may be suitable for the services as tabulated. However, due to varying conditions encountered in usage, the data should be considered as a recommendation and not as a guarantee. This data does not take into account chemical mixtures, thermo-mechanical or associated loading or stress combinations.

The information contained in this chart is based on present technical, scientific knowledge and experience. Such information is intended to serve as a guide. Nothing stated here may be taken or construed as implying a breach of any existing patents or violate any law, safety code or insurance regulation. Nor is any warranty, whether expressed or implicit, given with regard to the use of the aforesaid information. In the view of varying actual conditions of usage, which are being totally beyond our control. Customers should evaluate the data and product and make their own determination as to the suitability if any, of our product for their respective use and service conditions. The customer shall be responsible for the final selection namely, the determination of the suitability of a particular product system for a given environment as well as its use, performance and durability.

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