CORROSION RESISTANCE CHART

Warning: Corrosion rates may vary widely with factors such as concentration, temperature, abrasion and impurities of product. Serious injury may occur with contact of incompatible liquids with solids.

Compatibility Ratings

A = Excellent B = Good C = Fair to poor D = Poor Recommedation X = Not recommended - = No data available

Temperature Ratings:

1 = OK to 80° F 3 = OK to 95° F
2 = OK to 125° F 4 = OK to 205° F
All others listed at ambient temperature

	Epoxy		Plastics															Elastomers										Metals										Non-Metals		
CHEMICAL	Vinyl Ester VR-1	Epoxy EY-1	ABS Plastic	Acetal (Delrin)	CPVC	Epoxy	Hytrel®	HDPE	LDPE	Nonyl®	Nylon	Polycarbonate	Polypropylene	PPS (Ryton)	PTFE (Teflon)	PVC	PVDF (Kynar®)	Buna N (Nitrile)	EPDM	Hypalon®	PCTFE	Natural rubber	Neoprene	Santoprene	Silicone	Tygon® (R-3603)	Viton®	304 stainless steel	316 stainless steel	Aluminum	Brass	Bronze	Carpenter 20	Cast iron	Copper	Hastelloy-C®	Titanium	Carbon graphite	Ceramic Al_2O_3	Ceramic magnet
Black Chrome Bath 115° F	-	-	-	D	A	C	-	-	-	D	D	-	A	-	A	A	C	C	-	-	-	-	D	-	-	-	C	-	C	A	-	-	C	A	-	D	A	-	-	-
Chromic-Sulfuric Bath 130° F	-	-	-	D	A	C	-	-	-	D	D	-	A	-	A	A	C	D	-	-	-	-	D	-	-	-	C	-	C	A	-	-	C	A	-	D	A	-	-	-
Fluoride Bath 130° F	-	-	-	D	A	C	-	-	-	D	D	-	A	-	A	A	C	D	-	-	-	-	D	-	-	-	C	-	D	A	-	-	D	C	-	D	C	-	-	-
Fluosilicate Bath 95° F	-	-	-	D	A	C	-	-	-	D	D	-	A	-	A	A	C	D	-	-	-	-	D	-	-	-	C	-	C	A	-	-	C	C	-	D	C	-	-	-
Copper Plating (Cyanide):	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper Strike Bath 120° F	-	-	-	A	A	B	-	-	-	A	A	-	A	-	A	A	B	A	-	-	-	-	A	-	-	-	A	-	A	-	-	-	-	A	-	A	-	-	-	-
High-Speed Bath 180° F	-	-	-	B	D	C	-	-	-	A	A	-	A	-	A	D	A	A	-	-	-	-	B	-	-	-	A	-	A	A	-	-	-	A	-	A	D	-	-	-
Rochelle Salt Bath 150° F	-	-	-	B	D	C	-	-	-	A	A	-	A	-	A	D	A	A	-	-	-	-	B	-	-	-	A	-	A	A	-	-	-	A	-	A	D	-	-	-
Copper Plating (Acid):	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper Fluoborate Bath 120° F	-	-	-	C	A	D	-	-	-	A	D	-	A	-	A	A	A	B	-	-	-	-	C	-	-	-	A	A	D	A	-	-	D	D	-	D	D	-	-	-
Copper Sulfate Bath R.T.	-	-	-	A	A	D	-	-	-	A	D	-	A	-	A	A	A	A	-	-	-	-	A	-	-	-	A	-	D	A	-	-	D	A	-	D	A	-	-	-
Copper Plating (Misc):	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper Pyrophosphate	-	-	-	A	A	B	-	-	-	A	A	-	A	-	A	A	A	A	-	-	-	-	A	-	-	-	A	-	A	A	-	-	A	A	-	A	A	-	-	-
Copper (Electroless)	-	-	-	D	A	B	-	-	-	A	A	-	A	-	A	A	A	D	-	-	-	-	D	-	-	D	A	-	-	A	-	-	-	-	-	-	A	-	-	-
Gold Plating:	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acid 75° F	-	-	-	-	A	A	-	-	-	A	A	-	A	-	A	A	-	A	-	-	-	-	A	-	-	-	A	-	C	-	-	-	-	-	-	A	A	-	-	-
Cyanide 150° F	-	-	-	-	D	D	-	-	-	A	A	-	A	-	A	D	-	A	-	-	-	-	A	-	-	-	A	-	A	-	-	-	-	-	-	A	A	-	-	-
Neutral 75° F	-	-	-	-	A	A	-	-	-	A	A	-	A	-	A	A	-	A	-	-	-	-	A	-	-	-	A	-	C	-	-	-	-	-	-	A	A	-	-	-
Indium Sulfamate Plating R.T.	-	-	-	-	A	A	-	-	-	A	D	-	A	-	A	A	-	A	-	-	-	-	A	-	-	-	A	-	C	-	-	-	-	-	-	A	A	-	A	-
Iron Plating	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ferrous Am Sulfate Bath 150° F	-	-	-	-	D	D	-	-	-	A	D	-	A	-	A	D	-	A	-	-	-	-	B	-	-	-	A	-	C	-	-	-	-	-	-	A	A	-	-	-
Ferrous Chloride Bath 190° F	-	-	-	-	D	D	-	-	-	A	D	-	C	-	A	D	-	B	-	-	-	-	D	-	-	-	A	-	D	-	-	-	-	-	-	D	A	-	-	-
Ferrous Sulfate Bath 150° F	-	-	-	-	D	D	-	-	-	A	D	-	A	-	A	D	-	A	-	-	-	-	B	-	-	-	A	-	C	-	-	-	-	-	-	A	A	-	-	-
Fluoborate Bath 145° F	-	-	-	-	D	D	-	-	-	A	D	-	A	-	A	D	-	B	-	-	-	-	C	-	-	-	A	-	D	-	-	-	-	-	-	B	D	-	-	-
Sulfamate 140° F	-	-	-	-	A	A	-	-	-	A	D	-	A	-	A	A	-	A	-	-	-	-	A	-	-	-	A	-	D	-	-	-	-	-	-	B	A	-	-	-
Sulfate-Chloride Bath 160° F	-	-	-	-	D	D	-	-	-	A	D	-	A	-	A	D	-	B	-	-	-	-	C	-	-	-	A	-	D	-	-	-	-	-	-	D	A	-	-	-
Lead Fluoborate Plating	-	-	-	-	A	A	-	-	-	A	D	-	A	-	A	A	-	B	-	-	-	-	A	-	-	-	A	-	C	-	-	-	-	-	-	A	D	-	A	-
Nickel Plating:	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electroless 200° F	-	-	-	-	D	B	-	-	-	D	D	-	D	-	A	D	-	D	-	-	-	-	D	-	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoborate 100-170° F	-	-	-	-	A	A	-	-	-	A	D	-	A	-	A	A	-	B	-	-	-	-	A	-	-	-	A	-	C	-	-	-	-	-	-	A	D	-	-	-
High-Chloride 130-160° F	-	-	-	-	D	D	-	-	-	A	D	-	A	-	A	D	-	A	-	-	-	-	B	-	-	-	A	-	C	-	-	-	-	-	-	A	A	-	-	-
Sulfamate 100-140° F	-	-	-	-	A	A	-	-	-	A	A	-	A	-	A	A	-	A	-	-	-	-	A	-	-	-	A	-	C	-	-	-	-	-	-	A	A	-	-	-
Watts Type 115-160° F	-	-	-	-	D	D	-	-	-	A	A	-	A	-	A	D	-	A	-	-	-	-	A	-	-	-	A	-	C	-	-	-	-	-	-	A	A	-	-	-
Rhodium Plating 120° F	-	-	-	-	A	A	-	-	-	A	D	-	A	-	A	A	-	A	A	-	-	-	B	-	-	-	A	-	D	-	-	-	-	-	-	D	D	-	A	-
Silver Plating 80-120° F	-	-	-	-	A	A	-	-	-	A	A	-	A	-	A	A	-	A	A	-	-	-	A	-	-	-	A	-	A	-	-	-	-	-	-	A	A	-	-	-
Tin-Fluoborate Plating 100° F	-	-	-	-	A	A	-	-	-	A	D	-	A	-	A	A	-	B	-	-	-	-	C	-	-	-	A	-	C	-	-	-	-	-	-	A	D	-	-	-
Tin-Lead Plating 100° F	-	-	-	-	A	A	-	-	-	A	D	-	A	-	A	A	-	B	-	-	-	-	C	-	-	-	A	-	C	-	-	-	-	-	-	A	D	-	-	-
Zinc Plating:	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acid Chloride 140° F	-	-	-	-	A	A	-	-	-	A	D	-	A	-	A	A	-	A	-	-	-	-	A	-	-	-	A	-	D	-	-	-	-	-	-	D	A	-	-	-
Acid Fluoborate Bath R.T.	-	-	-	-	A	A	-	-	-	A	D	-	A	-	A	A	-	B	-	-	-	-	C	-	-	-	A	-	C	-	-	-	-	-	-	A	D	-	-	-

Warning: Halogenated solvents such as 1,1,1, Trichloroethane and Methylene Chloride should not be used in Aluminum equipment. A violent explosion could occur with halogenated hydrocarbons such as Carbon Tetrachloride, Chloriform, Dichlorethylene, Methyl Chloride, Methylene Chloride, and Trichlorethylene.

Data shown is based on information that has not been independently verified. We do not guarantee its accuracy or imply or state the accuracy of these charts. Data is limited to the concentrations and temperature specified. Assume ambient temperatures where temperature restrictions are not indicated.