

IMMERSION HEATER SOLUTION GUIDE

SOLUTION	TYPE OF HEATER	SOLUTION	TYPE OF HEATER	SOLUTION	TYPE OF HEATER
Acetic	PTFE* or Quartz	Copper Bright Acid	PTFE* or Quartz	Nitric Acid	PTFE* or Quartz
Actane 70, 80	PTFE*	Copper Cyanide	304 St. Steel	Nitric Hydrochloric Acids	PTFE* or Quartz
Actane Salt	PTFE*	Copper Fluoborate	PTFE*	Nitric Phosphoric	Quartz
Acid Sulfate	PTFE* or Quartz	Copper Pyrophosphate	304 St. Steel	Oil	Steel
Alcorite	PTFE* or Quartz	Copper Strike	304 St. Steel	Oleic Acid	PTFE* or Quartz
Alkaline Cleaners (Electrified)	304 St. Steel	Copper Sulfate	PTFE* or Quartz	Paint Stripper (Alkaline)	304 St. Steel
Alkaline Soaking Cleaners	304 St. Steel	Cyanide	304 St. Steel	Perchloroethylene	316 St. Steel
Alodine (most formulas)	316 St. Steel	Deionized Water	316 St. Steel or Titanium	Phosphoric Acid (No Fluoride) ...	PTFE* or Quartz
Alstan	304 St. Steel	Deoxidizer (Etching)	Quartz	Phosphate Cleaner	304 St. Steel
Aluminum Bright Dip	PTFE* or Quartz	Deoxidizer Non-Chromated	316 St. Steel	Phosphate	316 St. Steel
Aluminum Cleaners	304 St. Steel	Dichromic Seal	316 St. Steel	Potassium Acid Sulfate	PTFE* or Quartz
Aluminum Chloride	PTFE* or Quartz	Diethylene Glycol	304 St. Steel	Potassium Cyanide	304 St. Steel
Aluminum Sulfate	304 St. Steel	Diversey, 511, 514	PTFE*	Potassium Hydroxide	304 St. Steel
Ammonia	304 St. Steel	Dow Therm	316 St. Steel	Potassium Hydrochloric	PTFE* or Quartz
Ammonia Persulfate	PTFE* or Quartz	Dye Solutions	304 St. Steel	Potassium Permanganate	PTFE* or Titanium
Ammonium Bi Fluoride.....	PTFE*	Ebonal C	Titanium	Rhodium	PTFE* or Quartz
Ammonium Chloride	Titanium	Electroless Copper	PTFE*	Rochelle Salt Cyanide	304 St. Steel
Ammonium Nitrate	316 St. Steel	Electroless Nickel	PTFE* or Titanium	Ruthenium	PTFE* or Quartz
Anodizing (Aluminum)	PTFE* or Quartz	Electroless Tin (Acid)	PTFE* or Quartz	Salt (Actine)	PTFE*
ARP 28, 80 Blackening Salts..	PTFE* or Quartz	Electroless Tin (Alkaline)	316 St. Steel	Sea Water	Titanium
Arsenic	304 St. Steel	Electro Cleaner	304 St. Steel	Silver Bromide	316 St. Steel
Barium Chloride	Quartz or Titanium	Electro Polishing	PTFE* or Quartz	Silver Cyanide	304 St. Steel
Benzoic Acid	Titanium	Enthone 80 Acid	PTFE*	Silver Lume	304 St. Steel
Black Nickel	PTFE* or Quartz	Ethylene Glycol	Steel	Silver Nitrate	316 St. Steel
Black Oxide (Hi-Temp)	304 St. Steel	Ferric Nitrate	304 St. Steel	Sodium Bisulfate	PTFE* or Quartz
Black Oxide (Low-Temp)	Titanium	Ferric Sulfate	304 St. Steel	Sodium Carbonate	Titanium
Bonderizing	316 St. Steel	Ferric Ammonium Oxide	316 St. Steel	Sodium Chlorate	Titanium
Boric Acid	Titanium	Ferric Chloride	PTFE*, Quartz, Titanium	Sodium Chloride	Titanium
Brass Cyanide	304 St. Steel	Fluborate	PTFE*	Sodium Cyanide	304 St. Steel
Bright Nickel	PTFE*, Quartz, Titanium	Formic Acid	316 St. Steel	Sodium Dichromate (Hot Seal) ...	316 St. Steel
Bright Copper Cyanide	304 St. Steel	Glycerol	304 St. Steel	Sodium Hydroxide	Steel
Bronze	304 St. Steel	Immersion Gold	304 St. Steel	Sodium Hypochlorite	PTFE*
Brown Oxide	Titanium	Gold-Acid	PTFE*, Quartz, Titanium	Sodium Persulfate	PTFE* or Quartz
Burnite	PTFE* or Quartz	Gold Cyanide	304 St. Steel	Stannate	Steel
Butyric Acid	Titanium	Grey Nickel	PTFE*, Quartz, Titanium	Stanostar	PTFE* or Quartz
Cadmium Black	PTFE* or Quartz	Hot Seal Dichromate	316 St. Steel	Stearic Acid	Quartz
Cadmium (Alkaline)	304 St. Steel	Hydrogen Peroxide	PTFE* or Quartz	Sulfamate Nickel	PTFE*, Quartz, Titanium
Cadmium Fluoborate	PTFE*	Hydrochloric Acid	PTFE* or Quartz	Sulfur	PTFE* or Quartz
Calcium Chloride	Titanium	Hydrofluoric Acid	PTFE*	Sulfuric Acid	PTFE* or Quartz
Calcium Hypochlorite	Titanium	Indium	PTFE* or Quartz	Sulfur Peroxide	PTFE* or Quartz
Carbonic Acid	Titanium	Iridite (4-75, 4-73, 14, 14-2, 14-9)	316 St. Steel	Sulphamic Acid	PTFE* or Quartz
Caustic Etch	Steel	Iridite (1,2,3,4-C, 7,8,15)	PTFE* or Quartz	Tannic Acid	Titanium
Caustics	Steel	Iron Fluoborate	PTFE*	Tin Nickel	PTFE*
Caustics (highly concentrated 20% and over).....	Steel	Iron Phosphate	316 St. Steel	Tin Plating (Acid)	
Chlorine/Wet	PTFE* or Quartz	Isoprep (186,187,188)	316 St. Steel	(Stanus/Sulphate)	PTFE* or Quartz
Chloride	PTFE*, Quartz or Titanium	Isoprep Acid Salts	PTFE*	Tin Plating Acid (Fluborate)	PTFE*
Chlorosulfuric Acid	Titanium	Jetal	304 St. Steel	Tin Plating (Alkaline)	304 St. Steel
Chromic Anodizing	PTFE* or Quartz	Lead Acetate	304 St. Steel	Trichlorethylene	316 St. Steel
Chromic Acetate	PTFE* or Quartz	Lime Saturated Water (Alkaline)	316 St. Steel	Trioxide (Pickle)	PTFE* or Quartz
Chromic Nickel	PTFE* or Quartz	Linseed Oil	304 St. Steel	Turco (4181, 4338)	316 St. Steel
Chromium (No Fluorides)	PTFE*, Quartz, Titanium	Magnesium Hydroxide	304 St. Steel	Unichrome	PTFE* or Quartz
Chromium (Fluoride)	PTFE*	Magnesium Nitrate	PTFE* or Quartz	Water	316 St. Steel or Quartz
Citric Acid	Titanium	Manganese Phosphate	316 St. Steel	Wood's Nickel Strike	PTFE*, Quartz
Clear Chromate	PTFE* or Quartz	McDermid 629	PTFE*	Yellow Dichromate	PTFE* or Quartz
Cobalt Nickel	PTFE*, Quartz, Titanium	Mercuric Chloride	Titanium	Zinc Acid	PTFE* or Titanium
Cobalt Plating	304 St. Steel	Muriatic Acid	PTFE* or Quartz	Zinc Ammonium Chloride	Quartz or Titanium
Cobra Etch	PTFE*	Nickel (Plating Solution)		Zinc Cyanide	304 St. Steel
Copper Acid	PTFE* or Quartz	(Watts)	PTFE*, Quartz, Titanium	Zinc Phosphate	316 St. Steel
		Nickel Acetate Seal	316 St. Steel	Zinc Phosphate (Fluoride)	PTFE
		Nickel Chloride	Titanium	Zincate	304 St. Steel

Solutions requiring derated heaters are indicated by **bold, italicized** type.

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DO NOT USE ELECTRIC IMMERSION HEATERS TO HEAT FLAMMABLE SOLUTIONS!

*PTFE is a polytetrafluoroethylene fluoropolymer.