

CARTRIDGE HEATER SHEATH SELECTION

Cartridge heaters are available with a standard 304 Stainless Steel sheath. In addition, 316SS and Incoloy 800 are optional. 304SS is excellent for most applications. However for extremely high temperature applications, Incoloy 800 is the better choice. For some corrosive environments, 316SS is recommended. The chart below can help in selecting a sheath material:

Fluid being heated	304SS	316SS	Inc 800	Max Watt Density	Max Temp (°F)
Air up to 1200 °F	E	E	E	60	1200
Air up to 1400 °F	G	G	E	60	1400
Air up to 1600 °F	F	F	G	60	1600
Acetic Acid	F	G	F	40	180
Acetone	E	E	E	20	130
Alcohol	F	E	E	25	212
Asphalt	E	E	E	4 to 10	200 to 500
Caustic Soda, 10%	E	E	E	100	210
Degreasing Solution	G	E	E	40	275
Electroplating Bath, Cadmium	E	E	E	100	180
Electroplating Bath, Copper	E	E	E	100	180
Ethylene Glycol	F	F	F	30	NA
Freon	E	E	E	2 to 5	300
Glycerin	E	E	E	10	500
Kerosene	E	E	E	25 to 30	NA
Molasses	E	E	E	5	100
Nitric Acid (30% max)	F	F	NR	20	167
Oil (SAE 30)	E	E	E	20	250
Oil (SAE 50)	E	E	E	10 to 15	250
Oil, Vegetable or Mineral	E	E	E	30	400
Paraffin or Wax	E	E	E	16	NA
Steam	E	E	E	30	300
Steam	E	E	E	25	500
Trichlorethylene	F	F	F	30	150
Water, Distilled	E	E	E	300	212
Water, Tap	F	E	E	300	212

E=Excellent, G=Good, F=Fair, NR=Not Recommended