

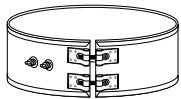
## WHICH ? HEATER

### BAND HEATERS



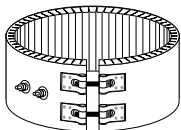
Knowing which heater to use to maximize your efficiency can be difficult. Heater life, start up time, process temperatures, durability, size and cost all play an important role in choosing the right heater. We have put this tech tip together to help you in this process. Keep in mind these are guidelines and that every application will have it's own set of unique challenges. Please consult your Proheat account manager with any questions concerning your application.

	Max Watt Density	Max Sheath Temp	Min/Max Diameter	Min/Max Width
Mica Band	55 W/in <sup>2</sup>	900° F	3/4" to 44"	5/8" to 15"
Ceramic Band	65 W/in <sup>2</sup>	1400° F	2" to 44"	1" to --
MI Band	230 W/in <sup>2</sup>	1400° F	1" to 28"	1" to 7"
Extruded Aluminum	40 W/in <sup>2</sup>	650° F	3-1/2" to --	3/4" to 4"
Cast Heater	45 W/in <sup>2</sup>	1350° F	1" to 48"	2-1/2" to 36"
Mini Coil	75 W/in <sup>2</sup>	1200° F	1/8" to --	.040" to --
Coil Heater	75 W/in <sup>2</sup>	1200° F	1/8" to --	.040" to --



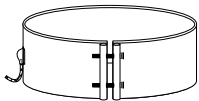
Mica Band

**Mica Bands** are inexpensive and easy to install. Mica bands derive their name from their dielectric insulator, mica. Mica bands are stocked in hundreds of sizes and can be custom manufactured in as little as one day. Mica bands must have a tight sheath to barrel fit to avoid premature burnout. We do not recommend mica bands in high temperature or high watt density applications.



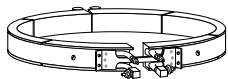
Ceramic Band

**Ceramic Bands** provide long life and lower energy costs. They provide efficient heat transfer without being affected by surface irregularities or loose fit. They can be manufactured in as little as one day. Ceramic bands function well in high temperature applications.



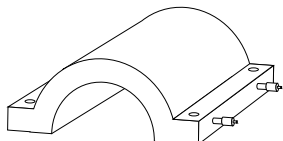
MI Band

**The MI (mineral insulated) Band** heater is a high performance heater. It can handle higher watt densities and temperatures. MI bands are the most efficient heater and are contamination resistant. They are expensive heaters and have longer lead times.



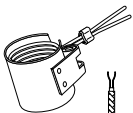
Extruded Aluminum

**Extruded Aluminum Bands** are very rugged. They employ tubular elements snapped into an extruded aluminum case. They provide excellent heat transfer and have a very long life. Extruded Aluminum bands cannot handle temperatures above 650°F.



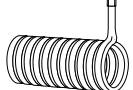
Cast Heater

**Cast Heaters** are very expensive but can last 10 years or longer. They are extremely rugged. Cast heaters operate in low watt densities but can work at higher temperatures. Cast heaters have a very long lead time. They are available with cooling fins or tubes. Typically these heaters are cast in bronze or aluminum.



Mini Coil Heater

**Mini Coil Heaters** provide worry free heat for hot runner systems. These heaters are typically sealed to virtually eliminate failures due to contamination. Axial clamps provide easy installation. These heaters can handle higher temperatures.



Coil Heater

**Coil Heaters** are low profile heaters that are easy to install in the tight environment of multiple-gate molds. Heat is conducted from the entire 360 degree circumference (mica bands are not). Optional thermocouple provides temperature measurement capabilities.