















## Cartridge Heater & Lead Wire Options

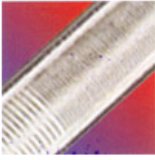
	<b>Fiberglass (standard)</b> Temperature rating : 482°F   250 °C		<b>Silicone</b> Temperature rating : 356 °F   180 °C
	<b>Silicone Cable</b> Temperature rating : 356 °F   180 °C		<b>Teflon</b> Temperature rating : 356 °F   180 °C
	<b>Teflon (High Amperage)</b> Temperature rating : 500 °F   260 °C		<b>Fiberglass (High Temp.)</b> Temperature rating : 932 °F   500 °C

### Lead Protection for Cartridge Heaters

	<b>Fiberglass Sleeve</b>		<b>Braid Metal Sleeve</b>
	<b>Armor Cable</b>		<b>Armor Cable (Gas Proof)</b>

### Potting Options for Cartridge Heaters

	<b>Ceramic</b> Temperature rating : 1000 °F   538 °C		<b>Epoxy</b> Temperature rating : 600 °F   315 °C
	<b>Teflon Plug</b> Temperature rating : 450 °F   232 °C		<b>Silicone</b> Temperature rating : 500 °F   260 °C
	<b>Silicone (High Temp.)</b> Temperature rating : 650 °F   343 °C		



**Distributed Wattage:** Industry specific winding profiles to improve thermal profiles including packaging, rubber and injection molding. We have also successfully developed OEM specific winding profiles to compensate for challenging cartridge heater placement.



**Anti-Seize Coating for Cartridge Heaters:** Building a cartridge heater that lasts longer can make removal more difficult when a heater must be replaced. Removal labor often costs more than the cartridge heater itself. In-house anti-seize coating is a cost effective option that can be added without impacting delivery



**Removal Aids** offer knock out tabs and other removal aids that allow you to quickly and confidently remove a cartridge heater when it is a time to replace it. Knock out tabs are recommended when you are installing the heater in a through bore prone to oxidation.



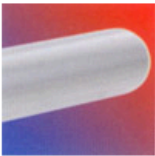
**Right Angle Exit**

To customize cartridge heaters for specific applications, the factory has redesigned the right angle exit with flat sides, making it possible to use a wrench to precisely position lead exit and break oxidation bonds when removing a heater.



**Right Angle Block**

The Right Angle Block has flat sides and substantial materials to provide the strength needed for highly corrosive environments such as die casting- where the cartridge heater sheath can be bonded to the bore.



**Centerless Grind Tolerance**

Standard tolerance of  $\pm.002$ " compares favorably to other cartridge heaters. If heat transfer is critical to your application, we can offer premium centerless grind tolerances that are  $\pm.0008$ ".



**Moisture Resistance**

If your application requires wash down, has high amounts of humidity in the ambient air, or has machining oil nearby, then there is a wide range of options to deliver moisture resistance at your operating temperature, leading to high performance for your cartridge heaters.



**Braided Leads**

DIA.	Min. Unheated
1/4"	1"
9/16"	1"
3/8"	1-1/2"
1/2"	1-1/2"
5/8"	1-9/16"
3/4"	1-7/8"
15-16"	1-7/8"
1"	1-7/8"
1-1/4"	1-7/8"

\* At lead end. Standard cold sections can be increased. Consult for metric diameter dimensions.



**Stainless Steel Braided Lead Protection**

Swaged in double conductor stainless steel braid is internally connected for strength and full-length flexibility. Stainless steel braided leads are available exiting straight or right angle of the sheath. Please specify overall length when ordering. See chart for dimension and minimum unheated section information.

**Armor Cable Leads**



**Stainless steel armor cable** is the best protection for use where lead wires experience abrasion. This termination configuration is available exiting straight or right angle. Please specify the overall sheath length when ordering. See chart for dimension and minimum unheated section information.

DIA.	Min. Unheated	Cable O.D.
1/4"	1-1/2"	1/4"
5/16"	1-1/2"	1/4"
3/8"	1-1/2"	3/8"
1/2"	1-1/2"	3/8"
5/8"	1-9/16"	1/2"
3/4"	1-7/8"	1/2"
15/16"	1-7/8"	1/2"
1"	1-7/8"	1/2"
1-1/4"	1-7/8"	1/2"

\* At lead end. Standard cold sections can be increased. Consult for metric diameter dimensions.

**Moisture and Contamination Resistant Leads**

DIA.	Min. Unheated
1/4"	1"
3/8"	1"
1/2"	1"



**Moisture and Contamination Resistant Leads**

Leads Swaged in Teflon seal and leads resist oil and water up to (482°F/250°C) maximum application temperature.