

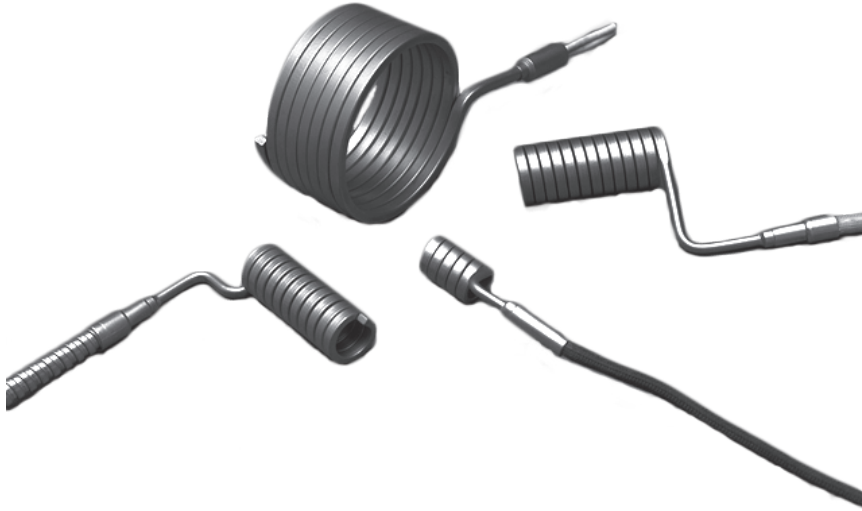


*closing the loop on thermal solutions*

# Coil Heaters

## INTRODUCTION

Durex coil heaters feature continuous operating temperatures up to 1200°F (649°C). Rapid heating and cooling occur, due to the low mass construction. All heating elements are sealed from contamination and the stainless steel sheath provides maximum corrosion resistance. An optional internal thermocouple may be utilized for overtemp control.

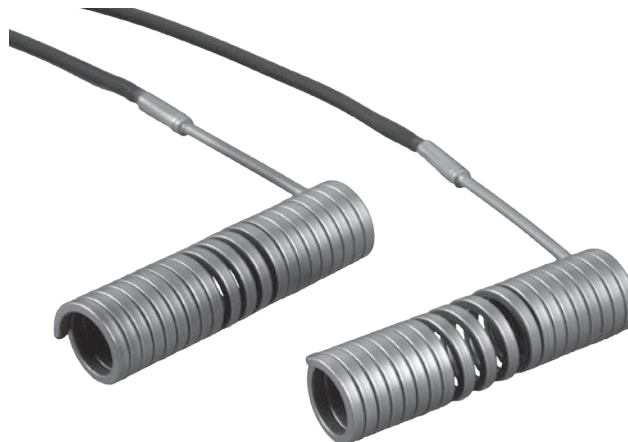


### **Design Features:**

- Continuous operating temperatures to 1200°F (649°C)
- Intermittent operating temperatures to 1500°F (815°C)
- Rapid heating and cooling due to low mass construction
- Heating elements sealed from contamination
- Stainless steel sheath for corrosion resistance
- Optional internal thermocouple for temperature control.

### **Typical Applications:**

- Blow Molding
- Custom Die Applications
- Extrusion
- Hot Runner Systems
- Injection Molding
- Thermoforming
- Others, Consult Durex





*closing the loop on thermal solutions*

# Coil Heaters

## **SPECIFICATIONS AND OPTIONS**

### **Engineering Specifications**

- Standard sheath material: ..... 304 stainless steel  
For temperatures up to 1500°F (815°C)
- Optional sheath material: ..... Inconel® 600 up to 1800°F (980°C)  
For aggressive atmospheres
- Standard thermocouple: ..... ANSI Type J
- Optional thermocouple: ..... ANSI Type K
- Minimum bending radius: ..... Three times the sheath diameter

### **Dimensional Specifications**

- Standard square cable: ..... 0.125" square
- Standard rectangle cable: ..... 0.080" x 0.140", 0.105" x 0.150", 0.130" x 0.130", 0.100" x 0.120"
- Standard round cable diameters: ..... 0.093", 0.125", 0.150", 0.188", 0.200", 0.250"  
Other dimensions available
  
- Cable diameter tolerance: ..... ± 0.005
- Standard potting adapter: ..... 0.25" to 0.38" diameter (See chart)
- Standard potting adapter length: ..... 0.88" to 1.20" (See chart)  
Other lengths available
- Standard coil I.D.: ..... From 3/8" up to 2 1/2" in any increments  
Applicable coil inner diameter is subject to cable diameter
- Coil I.D. tolerances: ..... 3/8" to 3/4", + 0.000", - 0.020"  
7/8" to 1 1/4", + 0.000", - 0.030"  
1 1/2" to 2 1/2", + 0.000", - 0.060"
- Coil length: ..... Up to 12" on 3/8" to 3/4" I.D.  
Up to 16" on 7/8" to 1 1/4" I.D.  
Up to 18" on 1 1/2" to 2 1/2" I.D.
- Coil length tolerance: ..... 0 to 6": + 0, - 1/8"  
6 to 12": + 1/8", - 1/4"  
12 to 18": ± 1/4"

### **Electrical Specifications**

- Resistance tolerance: ..... ± 10%
- Wattage tolerance: ..... ± 10%
- Maximum amperage: ..... Size dependent, consult factory
- Standard Voltage: ..... 120 or 240 volts  
For higher or lower voltages contact Durex Industries

Coil Heaters

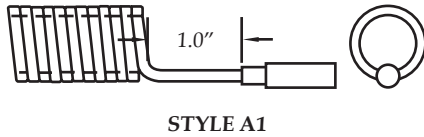
## SPECIFICATIONS AND OPTIONS

### Standard Specifications

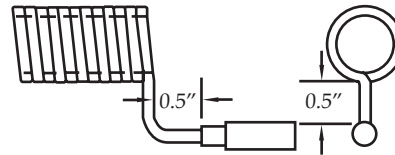
Sheath Cross Section	Maximum Voltage	Adapter		Minimum Bend Radius
		Diameter	Length	
0.062 Dia.	120	0.25	1.16	0.18
0.093 Dia.	120	0.28	0.88	0.28
0.125 Dia.	240	0.28	0.88	0.38
0.080 x 0.140	240	0.28	0.88	0.38
0.100 x 0.120	240	0.28	0.88	0.38
0.150 Dia.	240	0.28	0.88	0.45
0.105 x 0.150	240	0.28	0.88	0.45
0.130 x 0.130	240	0.28	0.88	0.45
0.188 Dia.	240	0.38	1.20	0.56
0.200 Dia.	240	0.38	1.20	0.60
0.250 Dia.	240	0.38	1.20	0.75

Radius may be reduced to two times the sheath diameter under ideal conditions. Consult the factory.  
Resistance / Wattage Tolerance  $\pm$  10%

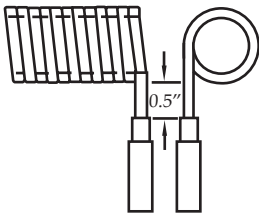
### Lead Adapter Orientations



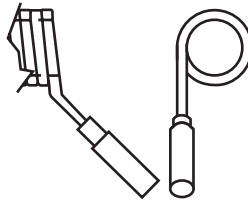
STYLE A1



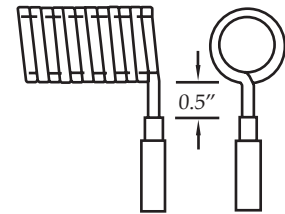
STYLE A2



STYLE A3



STYLE A4



STYLE A5

### Leadwire Termination Options



TYPE L - PTFE Lead wire 36" standard  
Ground lead is optional on all terminations



TYPE S - Fiberglass Sleeve



TYPE C - Stainless Steel Flex Hose



TYPE B - Stainless Steel Overbraid

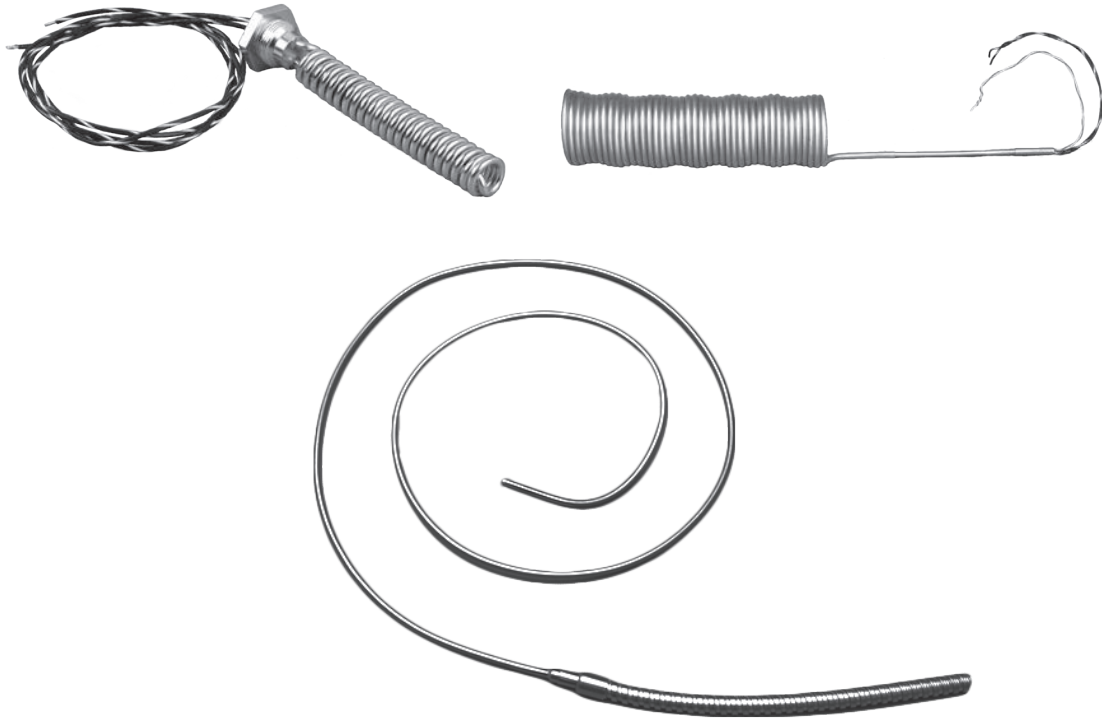


*closing the loop on thermal solutions*

# **Cable Heaters**

## **MINERAL INSULATED CABLE HEATERS**

Mineral insulated cable heaters can be formed to a wide variety of shapes and sizes that can deliver high temperatures to areas where standard heaters are impractical due to size or space restrictions. Cable heaters can be formed to cover cylindrical areas that require uniform heat patterns. Custom-formed cable heaters are transitioned with a moisture resistant transition to a flexible leadwire, which can have additional protective jackets such as stainless steel braid or stainless steel armor.



### **Design Features:**

- Wattage and voltage customized to application
- Elements can be formed to specification or formed on location
- Optional internal thermocouple can be located at various points for precise temperature control
- Sealed leadwire transition eliminates contamination
- Sheath materials available in 304 stainless steel, 316 stainless steel, Inconel® 600, or custom material available upon request

### **Typical Applications:**

- Heat Trace / Freeze Protection
- Semiconductor Manufacturing
- Plastic Molding Hot Runners Systems
- Air or Liquid Immersion
- Cutting and Sealing Bars
- Tube and Pipe Heating
- Large Surface Areas
- Vacuum Chambers



*closing the loop on thermal solutions*

# Cable Heaters

## MINERAL INSULATED CABLE HEATERS

### Engineering Specifications

#### Performance Ratings

Watt density: ..... 150 watts per square inch of sheath surface area maximum with ideal application, consult factory

Maximum temperature: ..... 1500°F (815°C)

#### Dimensional Ratings

Heater cable diameters: ..... 0.040", 0.062", 0.093", 0.125", 0.132", 0.150", 0.170", 0.188", 0.200", 0.250", Consult the factory for additional sizes

Cable diameter tolerance: ..... ± 0.005

Heater length tolerance: ..... 0 to 6" (± 1/8"), 6 to 18" (± 1/4"), 18 to 24" (± 3/8"), 24 to 120" (± 3/4"), 120 to 300" (± 1")

#### Electrical Ratings

Resistance tolerance: ..... ± 10%

Standard voltage: ..... 120 or 240 volts  
For higher or lower voltages, contact Durex Industries

Thermocouples: ..... ANSI Type J or K

### Transition and Termination

Transition (potting) adapters: ..... 0.25" to 0.38" diameter (See chart)

Transition temperature ratings: ..... Standard transition is rated to 482°F (250°C)  
Optional high temperature transition is rated to 842°F (450°C)  
Standard heater lead wire insulation is TGGT (Teflon®, double fiberglass, Teflon® impregnation) rated to 482°F (250°C)

Thermocouple: ..... Standard leads use a fiberglass insulation rated to 900°F (482°C)  
Teflon® insulation is available upon request

Optional lead protection: ..... Fiberglass sleeving, stainless steel overbraid, or stainless steel armor cable available

### Standard Specifications

Sheath Cross Section	Maximum Voltage	Adapter		Minimum Bend Radius
		Diameter	Length	
0.062 Dia.	120	0.25	1.16	0.18
0.093 Dia.	120	0.28	0.88	0.28
0.125 Dia.	240	0.28	0.88	0.38
0.080 x 0.140	240	0.28	0.88	0.38
0.100 x 0.120	240	0.28	0.88	0.38
0.150 Dia.	240	0.28	0.88	0.45
0.105 x 0.150	240	0.28	0.88	0.45
0.130 x 0.130	240	0.28	0.88	0.45
0.188 Dia.	240	0.38	1.20	0.56
0.200 Dia.	240	0.38	1.20	0.60
0.250 Dia.	240	0.38	1.20	0.75

Radius may be reduced to two times the sheath diameter under ideal conditions. Consult the factory.

Resistance / Wattage Tolerance ± 10%