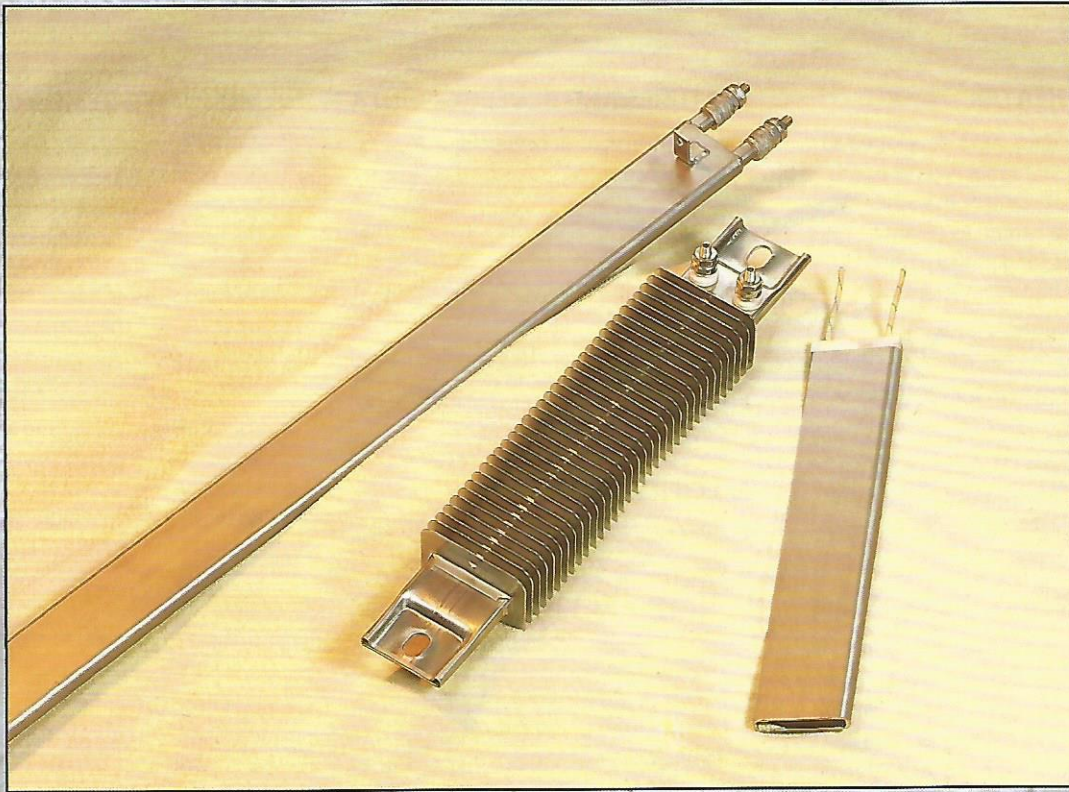


S T R I P H E A T E R S



Our Better Strip heaters feature maximum watt densities for your demanding high temperature applications.

fast  *heat*.

MICA STRIP HEATERS



THE MICA STRIP HEATER

Our Mica Strip heaters are a cost-effective and reliable way to provide uniform heat over a flat surface. Best suited for low to moderate temperatures, Mica Strips offer a wide variety of screw and lead termination styles.

Mica Strips feature thin construction and high quality insulation for effective heat transfer and excellent dielectric qualities.

APPLICATIONS

Mica Strips are ideal for situations in which medium to low temperature strip heating is required. Typical applications include heating rubber platens, compression molding, heating inks and sealing bars.

In addition, Mica Strips can be modified to meet the demands of virtually any special application. Our engineers can utilize a variety of alternative features and options to customize the heater to your specific needs.

Mica Strips can meet U.L./C.S.A. approval, refer to page 151 for reference and consult factory.

FEATURES AND BENEFITS

- Computer calculated design.
- Quality mica electrical insulation.
- Ribbon resistor offers broad surface contact for extended life.
- Welded terminal attachments to resistor.
- Heat resistant sheath material.
- Variety of screw or lead terminations and arrangements.
- Mounting holes available upon request.

SPECIFICATIONS

TOLERANCES:

Length: $\pm 1/16"$ (1.5 mm)
 Wattage: +5%-10%
 Thickness: $3/16"$ (4.7 mm) nominal
 Widths from $3/4"$ (19 mm) up to 18" (45.7 cm) typical.
 Lengths from 2" (50.8 mm) up to 80" (203.2 cm) typical.

Thick Plate Mica Strips are also available in thicknesses of $1/4"$ (6.4 mm), $3/8"$ (9.5 mm), and $1/2"$ (12.7 mm).

TERMINAL SIZE:

8-32 S. St. [1" (25.4 mm) wide or less]
 10-24 S. St.
 $1/4$ -20 S. St. (20 amps or greater)

LEADS:

482° F (250° C) - 300 volt or 600 volt U.L. listed

MAXIMUM SHEATH TEMPERATURE:

900° F (482° C)

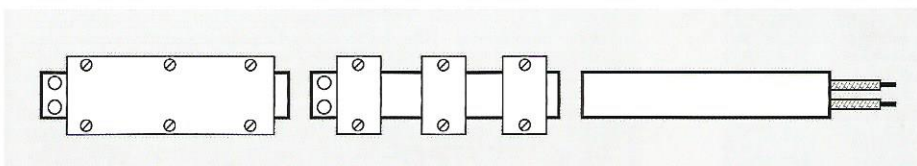
VOLTAGE:

480 maximum

Contact Fast Heat for additional details.

MOUNTING SYSTEMS

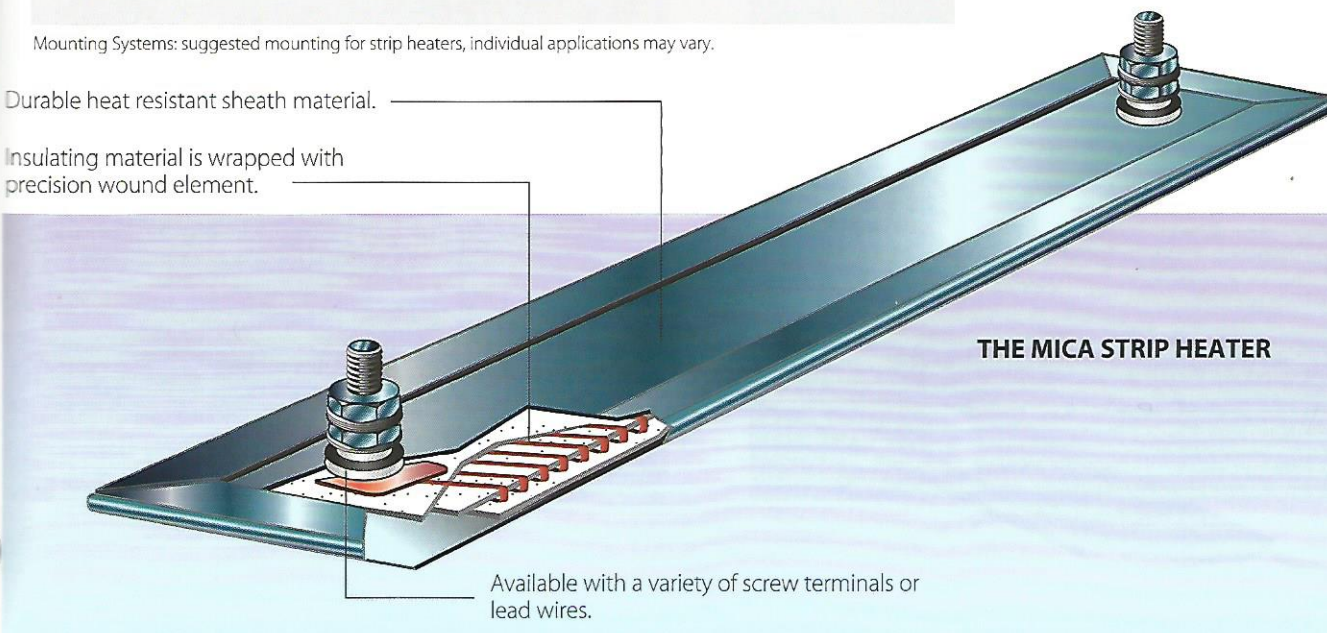
Preferred clamping systems include full coverage $1/4"$ (6.3 mm) thick clamp plate securely bolted to heated block at 3"-4" (76.2 mm-10.1 cm) intervals on both sides of heater and 1" (25.4 mm) wide $1/4"$ (6.3 mm) thick clamping bars bolted across heater at 3"-4" (76.2 mm-10.1 cm) intervals along length. Useful in oven mounting and short heater applications is screw slot mounting; however, this type of mounting is not recommended for high-wattage applications.



Mounting Systems: suggested mounting for strip heaters, individual applications may vary.

Durable heat resistant sheath material.

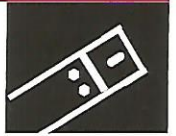
Insulating material is wrapped with precision wound element.



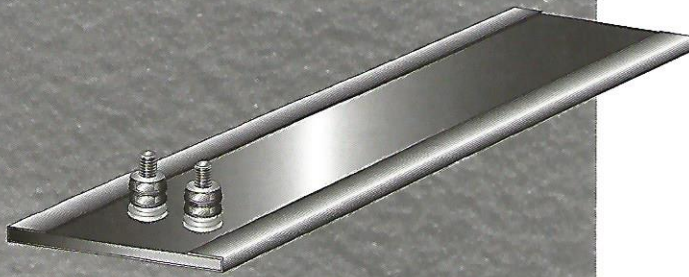
THE MICA STRIP HEATER

Available with a variety of screw terminals or lead wires.

BETTER & MICA STRIP HEATERS



SCREW TERMINALS



Better Strip



Mica Strip

Under 20 amps

20 Amps or greater

A

10-24 Thread

1/4-20 Thread

Simple-to-wire Stainless Steel screw terminals well suited for applications where lead access can only be arranged from one side along the width.

Available in 2" (50.8 mm) and wider.

See chart A.



CALCULATING MICA STRIP HEATER WATTS/IN²

• WITHOUT MOUNTING HOLES

$$\frac{\text{wattage}}{\text{heater length} \times \text{heater width}}$$

• WITH MOUNTING HOLES

$$\frac{\text{wattage}}{(\text{heater length} \times \text{heater width}) - (n \times .785 \times D^2)}$$

n = Number of holes

D = Dia. of holes

Example: heater length = 5"
heater width = 2"
2 mounting holes = 1/4" D
400 W, 240 V

$$\frac{400 \text{ watts}}{(5 \times 2) - (2 \times .785 \times .25^2)} = 40.4 \text{ watts/in}^2$$



FAST STRIP 38/CERAMIC STRIP HEATERS

FAST STRIP 38

The Fast Strip 38, strip heater is $\frac{3}{8}$ " thick, $1\frac{1}{2}$ " wide and is available with a variety of terminations to suit your application.

This strip heater comes configured for either high or low density applications.

CERAMIC STRIPS

Fast Heat's Ceramic Strip heater provides the ability to withstand higher temperatures (typically limited to 40 to 45 watts per square inch, depending on the application). The heater consists of a stainless steel sheath containing a high-temperature ceramic insulating a nickel chrome wire coil. Magnesium oxide (MgO) is used to fill any air pockets, thus providing the best heat transfer possible.

The terminals are also constructed of stainless steel and are securely anchored to prevent twisting out under normal conditions. Several terminations are available, including water-resistance.

Warranty coverage up to 480 Volts.

Ceramic Strips can meet U.L./C.S.A. approval, refer to page 151 for reference and consult factory.

APPLICATIONS

Our Ceramic Strip heaters provide a dependable, versatile and efficient heat source for a wide range of applications, such as heating air, injection and extrusion dies, food tables and platens.

They are available in many lengths; if a desired length or type does not appear in the catalog, consult Fast Heat. Whenever possible, please provide a dimensional sketch of your requirements with your order.

FEATURES AND BENEFITS

- Low expansion characteristics minimize movement away from block on applications not utilizing full clamping plate.
- Long life and the resulting reduction of equipment downtime.
- High heat transfer rates and rapid heat-up.
- Reduces number and physical size of heaters for many applications.
- 3-Phase available.
- Distributed wattage available.

SPECIFICATIONS

TOLERANCES:

Length: $\pm \frac{1}{8}$ " (3.1 mm), width + .0"- .040" (1.0 mm)

Wattage: + 5% - 10%

Fast Strip 38 Thickness:
 $\frac{3}{8}$ " (9.5 mm) nominal

Ceramic Strip Thickness:
 $\frac{5}{16}$ " (7.9 mm) nominal

Width: $1\frac{1}{2}$ " (38.1 mm) nominal

TERMINAL SIZE:

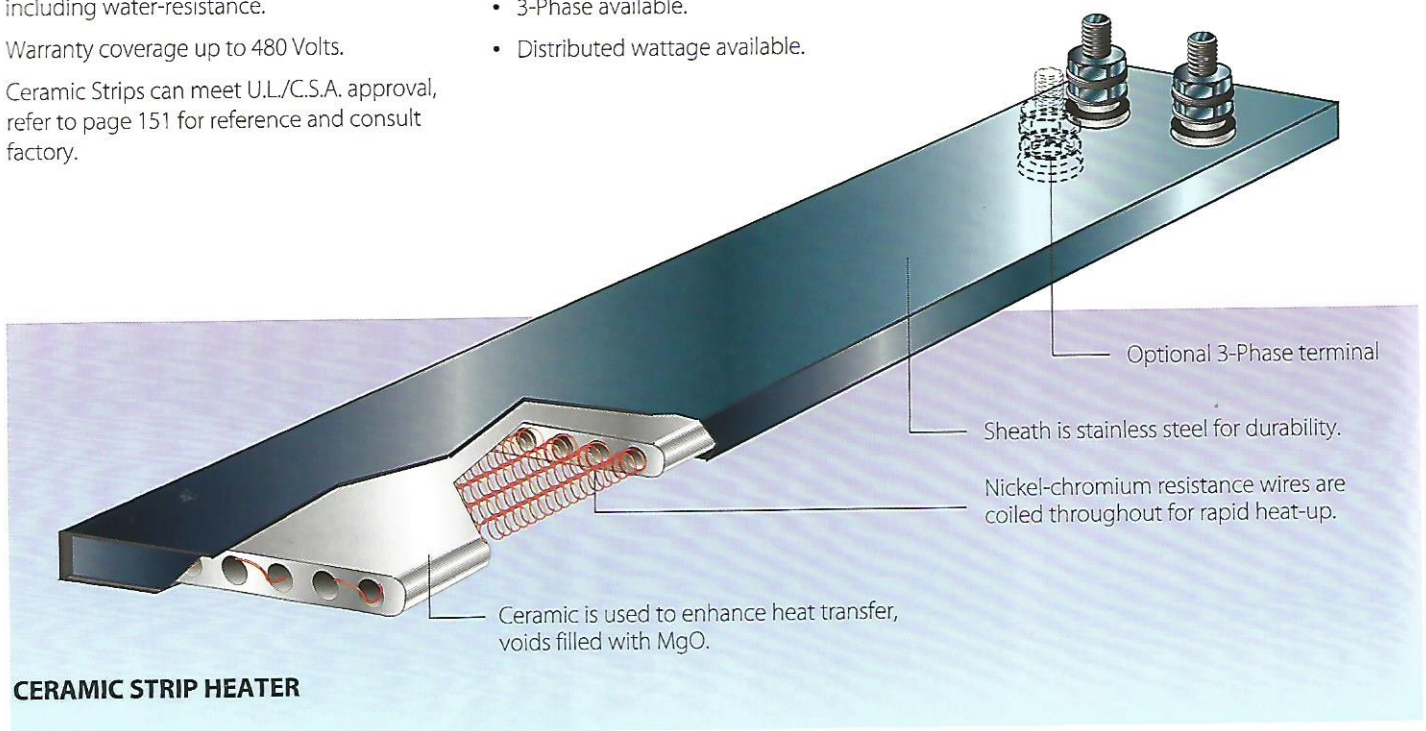
Standard 10-32 stainless steel with 20 amp rating.
(Other sizes are available, consult factory.)

LEADS:

482° F (250° C) - 300 volt or 600 volt fiberglass leads U.L. listed, C.S.A. approved.

Standard strip heater dimensions are $\frac{5}{16}$ " (8.0 mm) thick and $1\frac{1}{2}$ " (38.1mm) wide.

Contact Fast Heat for additional details.

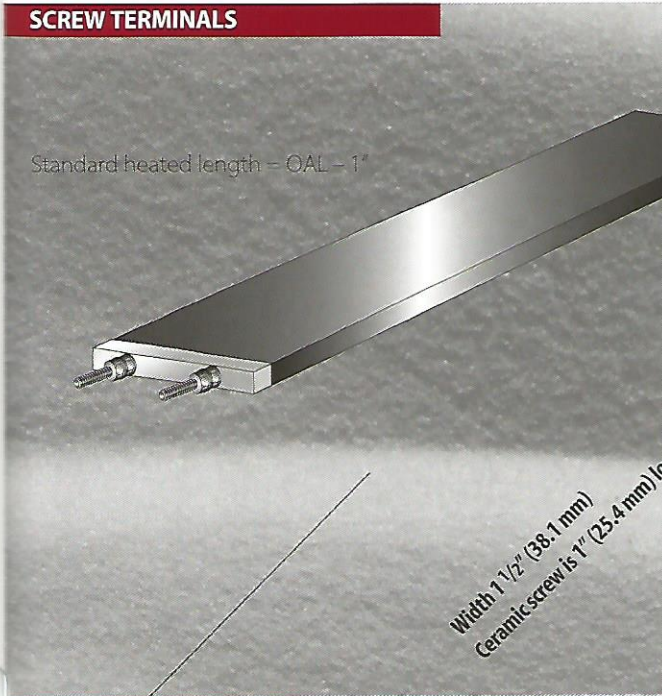


CERAMIC STRIP HEATER

CERAMIC STRIP HEATERS



SCREW TERMINALS



Ceramic Strip

Simple-to-wire 6-32 stainless steel screw terminals arranged for maximum heated length, and for applications where lead access is only possible from one side and height clearance is a concern.

Mounting tab option is available only on end opposite screw terminal.

See chart A.

Width 1 1/2" (38.1 mm)
Ceramic screw is 1" (25.4 mm) long

A	6-32 Thread
B	10-32 Thread

SCREW TERMINALS W/FINS



Ceramic Strip

Fast Heat has a complete line of finned strip heaters designed to provide excellent heat transfer to air. Finned strip heaters are available in a full range of sizes, wattages and voltage ranges.

Typical applications for finned strip heaters include duct heaters, space heaters, drying ovens and shrink tunnels.

Standard with stainless steel fins.

FIN DIMENSIONS:

2" (50.8mm) wide x 1 3/8" (34.9mm) high

*Refer to page 114 for strip dimensions.

See chart B.



PERMAHEAT STRIP HEATERS

PERMAHEAT STRIPS

The Permaheat Strip heater is designed for heavy duty applications and is the most rugged strip heater we offer. It uses a tubular heating element to provide excellent heat transfer and resistance to contamination, and its aluminum body allows for better conformity to slightly irregular surfaces.

The tubular elements are placed in a precisely extruded aluminum base. The aluminum body also serves as an excellent transfer medium for rapid heat-up while providing a uniform temperature throughout the entire heater.

APPLICATIONS

Permaheats can be used in many different situations, including extrusion die heating, chemical processing, compression molding or any application involving vibration and the risk of contamination.

FEATURES AND BENEFITS

- Excellent heat distribution; rapid heat-up.
- Various termination arrangements can be adapted to this heater style.
- Rugged construction.
- Long life due to tubular construction.
- Excellent heat transfer with aluminum extrusion as transfer medium.

SPECIFICATIONS

TOLERANCES:

Length: Consult Fast Heat regarding your specific requirements
 Wattage: + 5% - 10%
 Thickness: .5" (12.7 mm)
 Widths: 1 1/2" (38.1 mm), 2 1/2" (63.5 mm), 3" (76.2 mm), 4" (10.1 cm)
 Voltage: 120, 240

TERMINAL SIZE:

10-32 stainless steel 20 amp rating.

LEADS:

842° F (450° C) - 300 volt or 600 volt U.L. listed mica tape wire

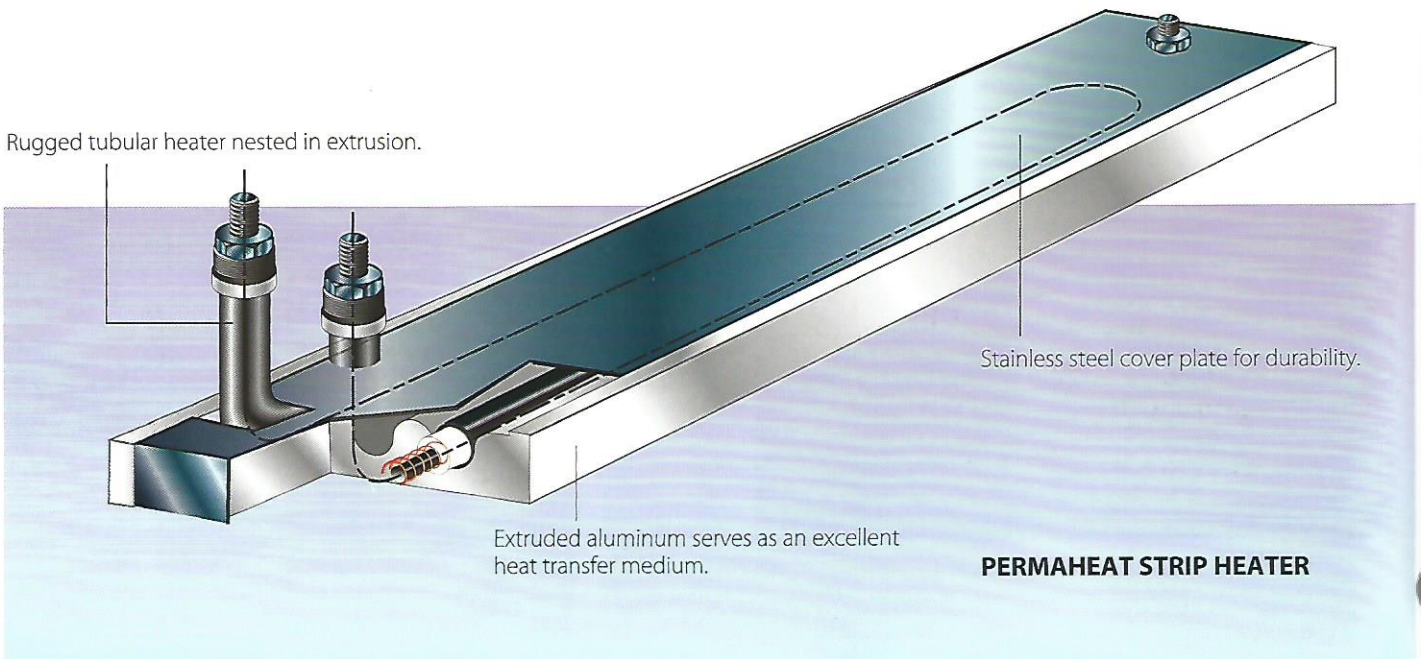
MAX. WATTS: 35 watts/sq. in. (5.6 watts/sq. cm)

MINIMUM AND MAXIMUM LENGTH:

1 1/2" (38.1 mm) wide: 6" - 50"
 (15.2 cm - 127 cm) 2 1/2" (63.5 mm),
 3" (76.2 mm), 4" (10.1 cm) wide: 6" - 25"
 (15.2 cm - 63.5 cm)

Optional 5/16" (7.9 mm) dia. mounting holes on centerline, typical. Other mounting hole placements are available depending upon heater width and length.

Contact Fast Heat for additional details.



PERMAHEAT STRIP HEATER

OPTIONS STRIP HEATERS



PLAIN LEADS



Fiberglass/Teflon® or
Fiberglass/Mica Tape Nickel Stranded
Conductor Wire

Jacketed for continuous service up to 482° F (250° C) with nickel stranded conductors. It is recommended to use Monel® lugs.

High temperature mica tape lead wire is suitable up to 842° F (450° C) max.

SLEEVING



Sleeving Nickel Stranded
Conductor Wire

Fiberglass silicone rubber coated sleeving Class C -1; 392° F (200° C) service.

Provides extra insulation where wire is exposed to heat, molten plastics or abrasion.

Rated 1500 volts at 482° F (220° C), except 5/16" (7.9 mm) size, which has no voltage rating. This size used primarily to enclose multiple insulation wires in heat and abrasion resistant covering.

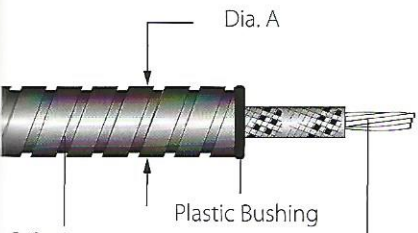
S. ST. BRAID



S. St. Braid Shrink Sleeving
Nickel Stranded
Conductor Wire

Stainless steel over braid is most commonly specified in applications where leads may be subjected to abrasion due to movement of the application. Lead wires may be rubbing together or passing over sharp objects.

S. ST. ARMOR

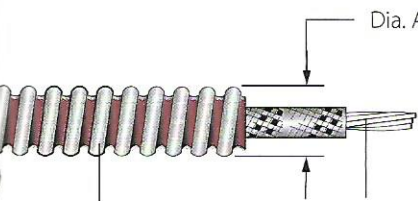


S. St. Armor Plastic Bushing
Nickel Stranded
Conductor Wire

Used over leads in areas where more protection is necessary. Designed for applications where lead access can only be available from one side in addition to applications where non-fluid contamination may come in contact with the leads. This lead protection is not as flexible as S. St. braid.

Stainless steel square lock construction. 10" (25.4 cm) standard, other lengths available.

CONVOLUTED S. ST. ARMOR



Convoluted Armor Nickel Stranded
Conductor Wire

This is a seamless product and can be attached to the heater so that fluids do not contaminate the leads.

Convoluted tubing is silver brazed to keep out moisture or other contaminants.

300 VOLTS 482° F (250° C) FIBERGLASS LEAD WIRE

GAGE	MAX. CURRENT @ 200° C
16	6.6 amps
18	5.2 amps
20	3.7 amps
22	2.8 amps

600 VOLTS 482° F (250° C) FIBERGLASS LEAD WIRE

GAGE	MAX. CURRENT @ 200° C
8	22.1 amps
10	16.5 amps
12	12.2 amps
14	9.0 amps
16	6.6 amps
18	5.2 amps
20	3.7 amps
22	2.8 amps

600 VOLTS 842° F (450° C) MICA TAPE LEAD WIRE

GAGE	MAX. CURRENT @ 200° C
12	15.2 amps
14	11.3 amps
16	8.3 amps
18	6.4 amps
20	4.6 amps
22	3.4 amps

300 VOLTS 842° F (450° C) MICA TAPE LEAD WIRE

GAGE	MAX. CURRENT @ 200° C
16	8.3 amps
18	6.4 amps
20	4.6 amps
22	3.4 amps



TERMINATION

- Lead protection may be required where a problem of lead abrasion arises. This protection may be provided by the use of stainless steel wire braid or armor cable, both of which are firmly anchored to the heater and are readily available in most sizes.

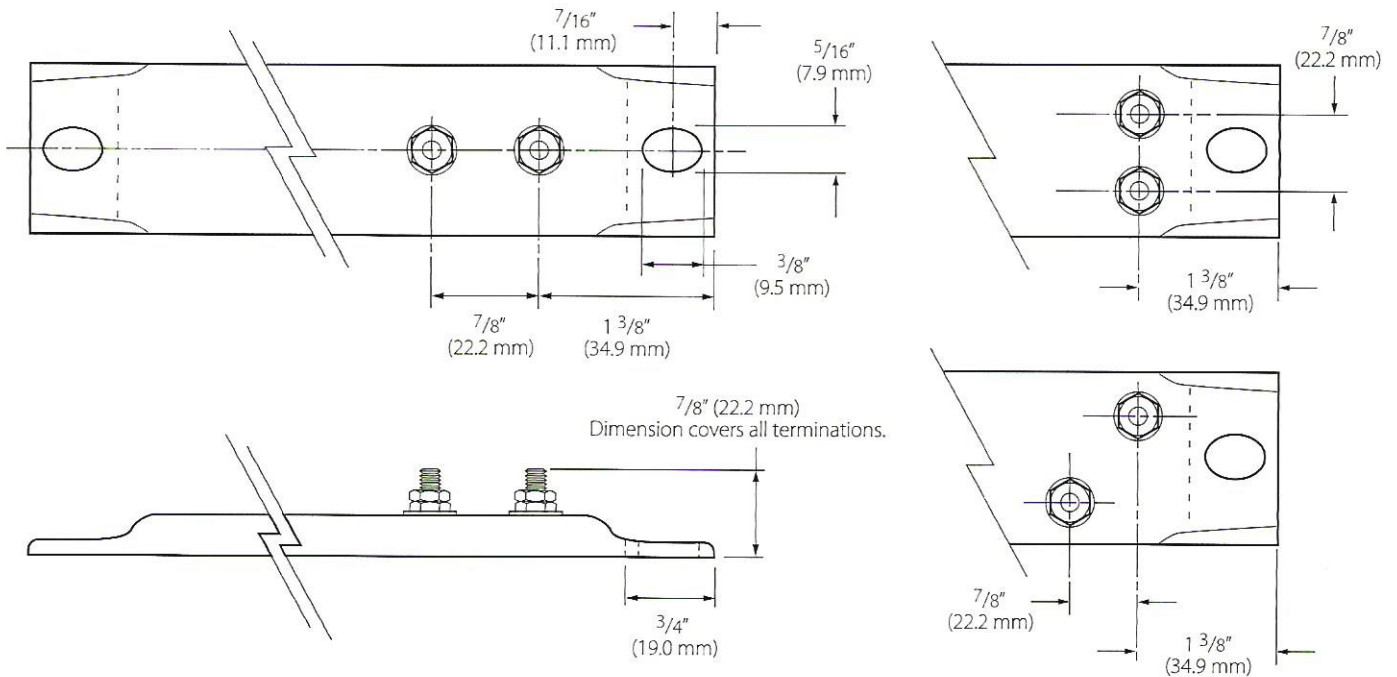
FIBERGLASS SILICONE RUBBER COATED SLEEVING

SLEEVING SIZES	I. D.
12	.085" (2.1 mm)
10	.106" (2.6 mm)
8	.133" (3.3 mm)
6	.166" (4.2 mm)
5	.190" (4.8 mm)
3	.234" (5.9 mm)
5/16	.313" (7.9 mm)

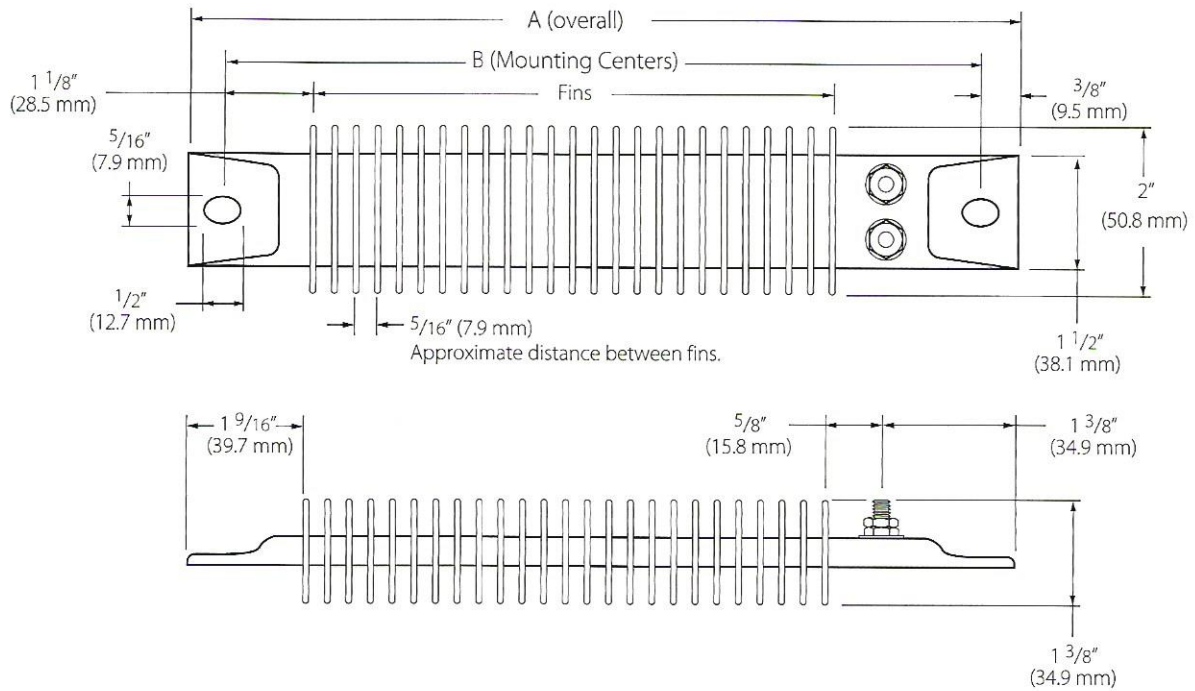


CERAMIC/ULTIMA OPTIONS STRIP HEATERS

CERAMIC STRIP



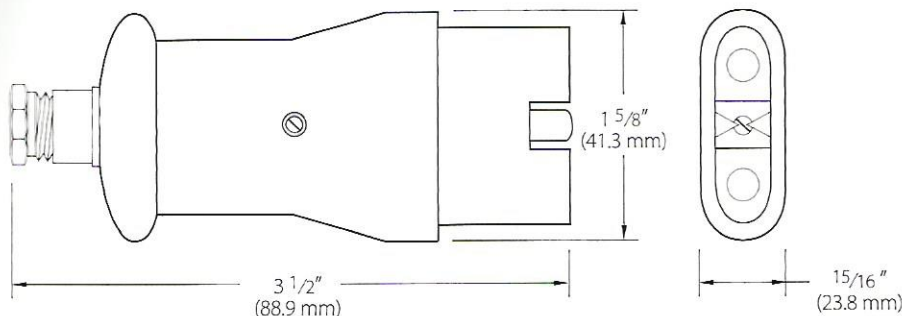
ULTIMA/CERAMIC FINNED STRIP





OPTIONS STRIP HEATERS

QUICK-DISCONNECT SOCKET

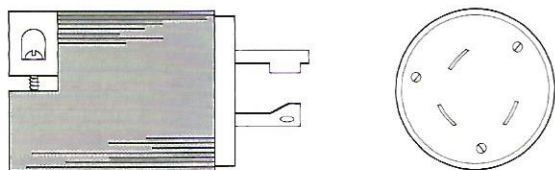


2 pole -25 amp -250V 600° F (315.5° C) service. Ideal for power connection to male plug on page 115.

Durable cast aluminum body on female side.

Both sides have ceramic insert insulators. Ground connection via contact fingers.

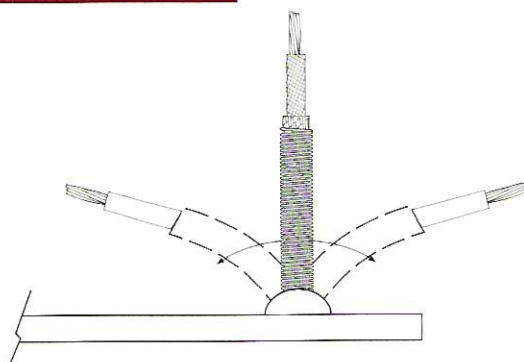
HUBBELL® PLUG (OR EQUIVALENT)



Simple power plug attached to strip heater; accommodates applications where lead access is available only at one end and a quick connect/disconnect power plug is a requirement.

Must specify Hubbell® or equivalent power plug number.

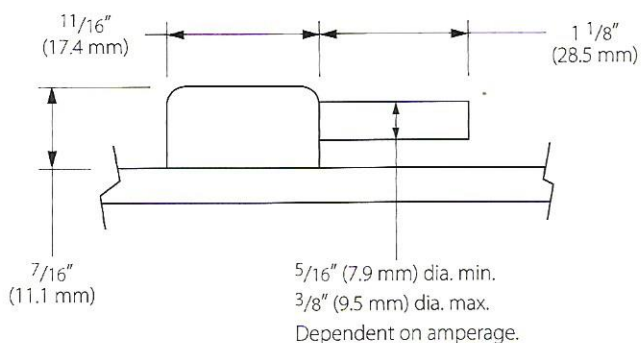
RELIEF SPRING



This optional relief spring is welded to the band sheath. It adds protection from abrasion while keeping the leads very flexible.

Specify length, maximum length: 12" (30 cm)

CAP AND TUBE



SILICONE RUBBER QUICK-DISCONNECT SOCKET

- This all-silicone rubber disconnect plug is generally selected for applications where the plug is frequently disconnected, thus submitting the plug to possible damage such as cracking the ceramic.
- When selecting, be aware of the temperature limitation of silicone rubber, which is 400° F (204.4° C).