

Tubular Heaters



FIREBAR® Single/Double-Ended Heaters

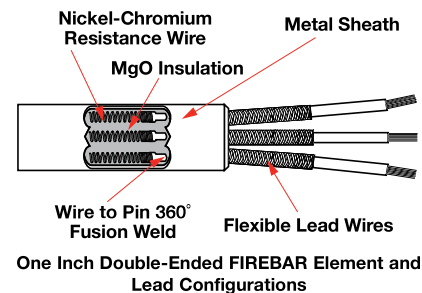
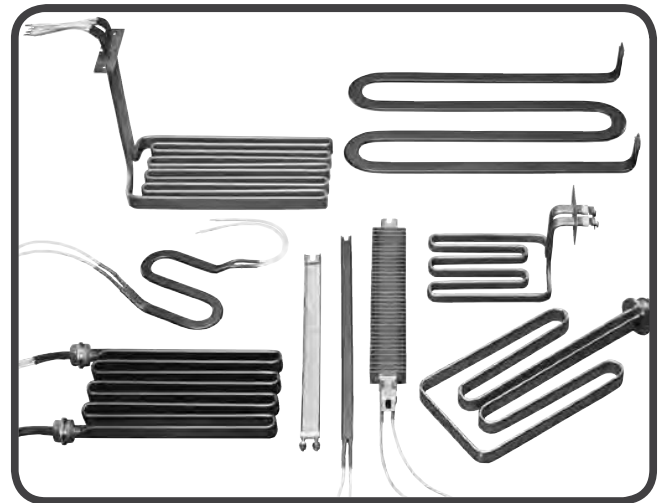
FIREBAR® heating elements provide added heating performance over standard round tubular heating elements—especially for immersion applications in petroleum based liquids requiring high kilowatts.

The FIREBAR's unique flat surface geometry packs more power in shorter elements and assemblies, along with a host of other performance improvements. These include:

- Minimizing coking and fluid degrading
- Enhancing the flow of fluid past the element's surface to carry heat from the sheath
- Improving heat transfer with a significantly larger boundary layer allowing much more liquid to flow up and across the sheath's surface

FIREBAR elements are available in single- and double-ended constructions with one inch or $\frac{5}{8}$ inch heights. These two configuration variables make it possible to use FIREBAR elements instead of round tubular elements in virtually all applications.

FINBAR™ is a special version of the one inch, single-ended FIREBAR. FINBAR is specially modified with fins to further increase surface area for air and gas heating applications. Details are contained in the *FINBAR* section, starting on page 103.



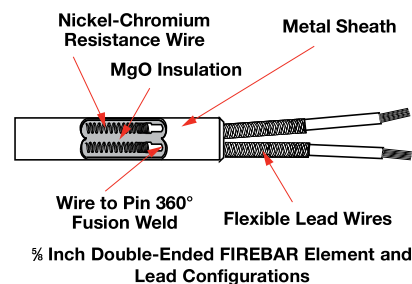
Double-Ended Performance Capabilities

One Inch

- Watt densities up to 120 W/in² (18.6 W/cm²)
- Alloy 800 sheath temperatures up to 1400°F (760°C)
- 304 stainless steel sheath temperatures up to 1200°F (650°C)
- Voltages up to 240VAC
- Amperages up to 48 amperes per heater or 16 amperes per coil

$\frac{5}{8}$ Inch

- Watt densities up to 90 W/in² (13.9 W/cm²)
- Alloy 840 sheath temperatures up to 1400°F (760°C)
- Voltages up to 240VAC
- Amperages up to 32 amperes per heater or 16 amperes per coil



Single-Ended Performance Capabilities

One Inch

- Watt densities up to 60 W/in² (9.3 W/cm²)
- Alloy 800 sheath temperatures up to 1400°F (760°C)
- 304 stainless steel sheath temperatures up to 1200°F (650°C)
- Voltages up to 240VAC
- Amperages up to 48 amperes per heater or 16 amperes per coil

$\frac{5}{8}$ Inch

- Watt densities up to 80 W/in² (12.4 W/cm²)
- Alloy 840 sheath temperatures up to 1400°F (760°C)
- Voltages up to 240VAC
- Amperages up to 16 amperes per heater