

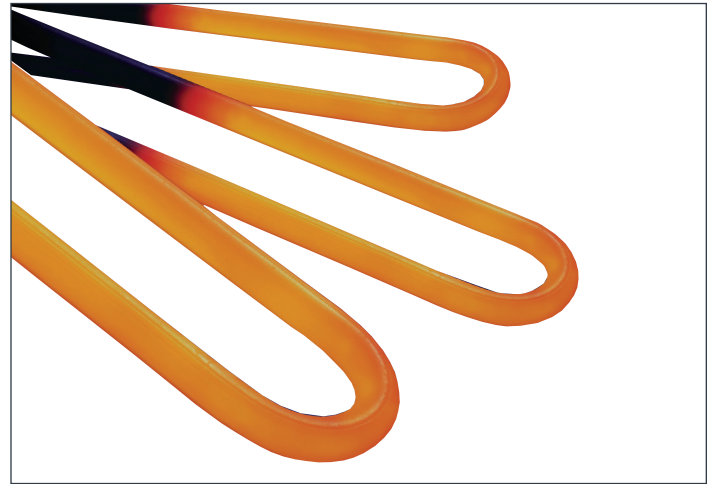
# High-Temperature Tubular Heaters

## Ideal for Process Air Heating Applications Requiring High Temperatures

Watlow® manufactures high-temperature tubular heaters to bridge the gap between standard tubular heaters and Watlow MULTICELL™ heaters. This tubular is well suited for process air heating applications in excess of 1300°F (704°C), resulting in a maximum sheath temperature of 1800°F (983°C). Controlled lab testing between the new design and current tubular designs shows an increase in life of approximately 50%.

The high-temperature tubular consists of an engineered tubing with an alloy 600 outer sheath and a special internal construction. The outer sheath offers high temperature capabilities, reduced oxidation as well as corrosion resistance.

The tubular offering is available in 0.430 and 0.375 inch diameters that are configurable either as formed tubulars or process heaters. The heaters can also be welded to flanges and plates for mounting purposes. Maximum sheath length available is 275 inches for the 0.430 inch and 0.375 inch diameters. Contact a Watlow representative for longer sheath lengths.



### Features and Benefits

#### Alloy 600 sheath material and a special internal construction

- Assures high-temperature performance and corrosion protection in tough applications

#### 0-430 inch diameters\*

- Allows heater to be configured to existing tubular designs that may be experiencing short life

**Note: 0.375 diameters are available in Watlow's extended capabilities, contact a Watlow representative for details.**

#### Dual-ended termination

- Installs into flanges and screw plugs similarly to standard product configurations

#### Bendable in standard formations

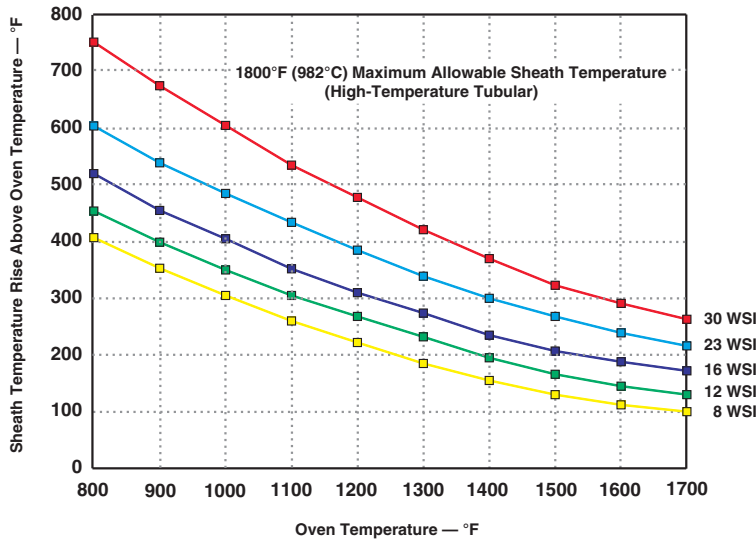
- Makes the heater easy to apply in a wide variety of application

### Typical Applications

- High temperature ovens and furnaces
- Radiant heating
- Drying
- Environmental—VOC abatement
- Process air heating: duct heaters, circulation heaters
- Vacuum applications
- Flue gas cleaning (desulphurization)
- Fluidized beds

## Sheath Temperature Versus Oven Temperature at Various Watt Densities

The chart below is used to verify the correct watt density for an oven application assuming no air flow. To use the chart, first select the oven process temperature on the X axis. Using the chosen watt density, read the sheath temperature rise above oven temperature from the Y axis. This number should then be added to oven temperature. If this number is greater than 1800°F (982°C), a lower watt density should be chosen.

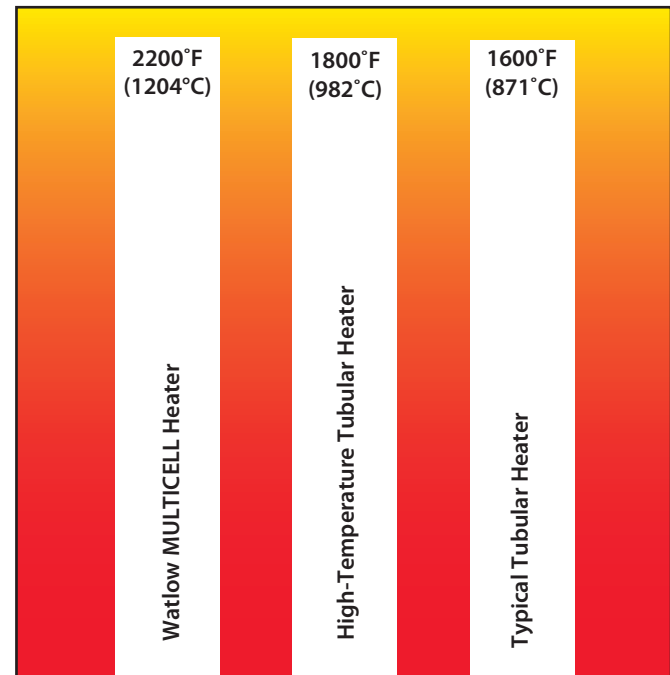


## Heater Life Estimate Service

Watlow now provides an industry first service with the offering of the high-temperature tubular. By providing operating parameters, Watlow provides customers with the estimated life of the heater. To get this information, the following information should be provided:

- Heater voltage
- Heater wattage
- Heater diameter 0.430 or 0.375 in. (10.9 or 9.5 mm)
- Heated length
- Bend configuration and dimensions (number of bends and radius)
- Application including process temperature
- Power switching device and cycle time (SCR, etc.)

## High-Temperature Heater Comparisons



\*Assuming normal design practices.

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