

SILICON CARBIDE HEATERS

Manufactured to perform in the widest high temperature range, silicon carbide heating elements have maximum performance at high temperatures. Made of semiconductor material, its resistivity is much higher than metallic resistance materials. Resistivity decreases with increasing temperature and reaches a minimum at 600-900 °C. However, for temperatures above 900°C, resistivity increases with rising temperatures. It can be used in the temperature range of 600 – 1600 °C, in both air and controlled atmospheres. Resistance of silicon carbide heating elements increases during their life in operation; hence a variable voltage supply may be needed during long duration operation. To optimize heating element life, the right element should be selected with element surface loading as low as possible.

As the heating material remains rigid, even at max temperatures, no special supports are required for their installation in either horizontal or vertical direction. Higher electrical loadings are acceptable without disturbing the heat process and performance. Hence great savings in cost are possible with minimum maintenance. Also elements can be easily replaced without the need of a shutdown. Generally available in the form of round rods or tubes, customized heaters are

also available for replacement purposes. Constructed with the conventional central hot zone and two cold ends, they are available in diameters from 10 mm to 55 mm.

FEATURES

- Temperature range from 600 °C to 1600 °C (1110-2910 °F)
- Can operate on higher electrical loading
- Easy maintenance
- Savings in furnace cost.

APPLICATIONS

Silicon carbide heating elements can be used in a variety of furnaces, big or small, laboratory or industrial, in different atmospheres and temperature ranges. Some typical furnaces where they can be used are:

- Aluminum die casting
- Aluminum melting and holding furnace
- Crucible furnace for non ferrous metals
- Laboratory furnace
- Rotary hearth furnace
- Continuous furnace
- Glass Feeder

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