

Ceramic Fiber Heaters



Introduction

High Temperature Ceramic Fiber Heaters



Design Features

- * Standard Heaters to 1100°C (2012°F)
- * High Temperature Version to 1200°C (2192°F)
- * Low Thermally Conductive Built-In Insulation
- * Standard Flat Panel, Full Cylindrical and Semicylindrical Shapes
- * Fe-Cr-Al Alloy Resistance Wire Elements
- * Standard 9" long double-twisted bare wire leads
- * 100% Inorganic; free of Organics & Asbestos
- * Thermal Shock Immunity
- * Excellent Resistance to Chemical Attack

Industrial Uses

- | Industry | Application |
|-----------------|----------------------------------------------------------------|
| ↔ Aerospace | ***** Crystal Growth, R & D |
| ↔ Dental | ***** Manufacture of Crowns and Bridges |
| ↔ Metals | ***** Heat Treat and Temper |
| ↔ Plastics | ***** Sealers and Formers |
| ↔ Automotive | **** Metal Heat Treating and Paint Curing |
| ↔ Chemical | ***** Remove By-Products & Catalyst Materials |
| ↔ Crystals | ***** Preheat & Manufacturing of Optical and Gemstone Crystals |
| ↔ Glass | ***** Annealing Process & Preheat of Glass Manufacturing |
| ↔ Ceramic | ***** Extrusion Dies |
| ↔ Semiconductor | ** Diffusion Furnaces & Annealing Wafers |

Designed For High Temperatures and Efficiency

Tempco Ceramic Fiber Insulated Heaters combine a heat source with superior high temperature insulation—an ideal solution for an unlimited number of industrial heating applications. Tempco Ceramic Fiber Insulated Heaters produce fast, efficient, and reliable uniform heat to temperatures of 1100°C (2012°F). Higher temperature ratings, up to 1200°C (2192°F), are available with a limited number of designs.

Flat Panel, Full Cylindrical and Semi-Cylindrical Shaped Ceramic Fiber Insulated Heaters — Tempco Standard

These heaters are comprised of high-quality helically wound Fe-Cr-Al alloy resistance wire elements embedded in a rigid body of vacuum-formed high temperature refractory fiber. This ceramic fiber insulation has very low weight, thermal mass and thermal conductivity and thus can handle extremely rapid cycling.

The elements are typically mounted flush with the heated surface. The diameter of the helically wound element coil is kept to a minimum, reducing the difference between the element and chamber temperature, thus ensuring long heater life. This feature enables the design and manufacture of responsive heating systems and significantly reduces the risk of overheating the element.

- * Standard 9" long double-twisted bare wire leads.
- * Custom shapes are available on request.

All Tempco Ceramic Fiber Insulated Heaters are organic free and will not smoke or outgas.

MAXIMUM TEMPERATURE

The maximum temperature attainable is totally dependent on the application. To reach the maximum temperature stated, the application must be well insulated and sealed to trap the heat (like an oven) and allow the temperature to build. For example, to use a ceramic fiber cylindrical heater at its maximum temperature, the ends must be closed off with unheated insulated discs to minimize heat loss and allow the temperature to build.