

Application Guidelines

- High Temperature Ceramic Fiber heaters are *designed for radiant heat transfer* only. They are not intended for contact heating. They do not have the physical strength found in band, cartridge, strip or cast-in heaters.
- Mounting methods** such as washers, pins, screws, overlapping edge clamps, and interlocking edges work well with Ceramic Fiber heaters. Cementing is not recommended because it will not allow expansion or contraction.
- The **maximum temperature attainable is totally dependent on the application**. To reach the maximum temperature stated, the application must be well sealed (like an oven) to trap the heat generated by the heater core and allow the temperature to build. If the heaters are used in an open environment the maximum temperatures will not be reached. For example, to use a ceramic fiber cylindrical heater at its maximum temperature, the ends must be closed off with un-heated insulated discs to minimize heat loss and allow the temperature to build.
- Ceramic Fiber Heaters have a **very high porosity factor** and cannot be sealed against contamination and possible damage to the heating element. Keep the furnace free of contaminants that can vaporize at high temperatures.
- The **temperature for most applications** needs to be controlled at a specific temperature. This can be most readily accomplished thru the use of fast responding electronic PID temperature controls. See Section 13 for single loop controls and Complete Control Systems.
- Thermocouple temperature probes** are used to sense the temperature of the application and provide feedback to the Temperature Control System. Typically, Type K thermocouples with an operating range up to 1260°C/2300°F are commonly used. Alloy 600 sheath material, good up to 1177°C/2150°F should be specified. Mineral insulated probes such as Tempco's MTA1 on catalog page 14-14 are highly recommended.
- Be careful with any electrical connections** made in the heated portion of the application. The connections must be rated for the expected operating temperature and current flow.
- Use only inorganic fibers and binders** to avoid corrosive fumes that could damage the heater.
- Ceramic Fiber Heaters are easily damaged from **careless mechanical handling**, so handle the units and leads carefully.

Dimensional Tolerances

Flat Panels

Width:	4", 6", 8"	± 1/8"
	10" through 32"	± 1/4"
Length:	6"	± 1/8"
	12" through 44"	± 1/4"
Thickness:	1"	± 1/8"
	2" through 4"	± 1/4"

Full Cylindrical

I.D.:	1.5" through 4"	± 1/8"
	5" through 18"	± 1/4"
O.D.:	3.5"	± 1/8"
	5" through 24"	± 1/4"
Length:	6"	± 1/8"
	12" and 18"	± 1/4"

Semi-Cylindrical

I.D.:	2" and 3.5"	± 1/8"
	5" through 18"	± 1/4"
O.D.:	6" through 22"	± 1/4"
Length:	6"	± 1/8"
	12" through 36"	± 1/4"



**Standard Temperature (1100°C)
Semi-Cylindrical Heater**

2" I.D. × 6" O.D. × 18" Long
1130W, 240V



**High Temperature (1200°C)
Flat Panel Heater**

12" Square × 2" Thick
1100W, 120V



**High Temperature (1200°C)
Semi-Cylindrical Heater**

7" I.D. × 11" O.D. × 12" Long
1600W, 240V



Note: Temperature ratings of 1200°C (2192°F) are available on a limited number of designs. Consult Tempco.