Made in USA

Tubular Heater Standard Moisture Seals

Magnesium Oxide (MgO) is used as the insulating material in Tempco tubular heaters because of its excellent thermal conductivity and dielectric strength. However, MgO is hygroscopic and can absorb moisture from the atmosphere. This absorption of moisture may be detected when an Insulation Resistance (IR) test is done with a megohmmeter prior to energizing the heater circuit. In very humid environments, circuits utilizing a GFI (ground fault interrupter) for safety may experience nuisance tripping when energizing the heater.

The Tempco manufacturing process produces a dry element with an IR of several thousand megohms minimum. However, after shipment and depending on humidity levels and storage time, a heater can absorb moisture and show a decrease in IR. In many cases, depending on the supply voltage and the application, the heater can be safely energized and will dry itself out.

If a heater has absorbed moisture, a safe and effective method of drying it out prior to installation is to bake it in an oven at 300°F (149°C) until an acceptable IR reading is obtained. When possible, removing the terminal hardware will expedite this process. If this method is not practical consult factory for other recommendations.

For applications where moisture absorption would be unacceptable Tempco has several optional element end seals to retard absorption of moisture in the MgO. If a true hermetic seal is required, ceramic to metal end seals (Type H) are available. With any of these seals, the maximum recommended termination temperature in the seal area must not be exceeded.

Style SS—Silicone Resin Seal

A brushed-on coating that penetrates the MgO, offering economical moisture protection under humid storage conditions.

Maximum Usable Termination Temperature: 390°F (200°C)

UL Rated Maximum Termination Temperature: 221°F (105°C)

Type V2A: conformal coating
Type V2B: silicone oil

Style SER—RTV Seal

RTV (room temperature vulcanizing) silicone rubber adhesive sealant provides a good moisture seal.

UL Rated – Maximum Termination Temperature:

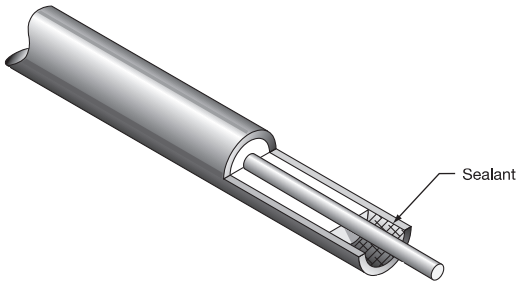
Type R: 302°F (150°C)
Type R1: 392°F (200°C)

Style SEH—Epoxy Resin Seal

Epoxy resin provides a moisture resisting barrier.

UL Rated – Maximum Termination Temperature:

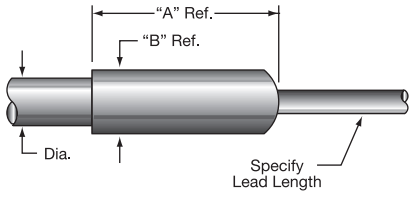
Type V: 194°F (90°C)
Type V1: 266°F (130°C)
Type V4: 392°F (200°C)



TYPE M—Self Sealing Heat Shrinkable Boot with Lead Wire

This type seal is used primarily for defrost heaters. Temperature range -67 to 300°F (-55 to 149°C). Standard 10" (254 mm) leads; specify longer leads if required.

Heater Diameter in	Heater Diameter mm	"A" in	"A" mm	"B" in	"B" mm
.260	6.6	2-1/8	54	7/16	11
.315	8.0	2-1/8	54	7/16	11
.430	10.9	2-1/8	54	9/16	14



TYPE H—Hermetic Seal

Ceramic to metal seals provide an airtight seal for temperatures to 500°F (260°C) in the seal area.

Heater Diameter in	Heater Diameter mm	"A" in	"A" mm	"B" in	"B" mm	Thread Size
.260	6.6	1-11/16	43	13/32	10	8-32
.315	8.0	1-11/16	43	13/32	10	10-32
.430	10.9	2-1/8	54	21/32	17	1/4-28
.475	12.1	2-1/8	54	21/32	17	1/4-28