

ENGINEERING CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

Use - For use only in products where the acceptability of the combination is determined by UL.

Conditions of Acceptability -

1. A complete enclosure should be provided in the end-use product for protection of heater assembly from physical damage.
2. Temperatures shall be judged in the end-use. The cartridge body shall not exceed 427°C due to the Normal Temperature Test conducted at this temperature. The wire insulation temperature rating shall be suitable for the temperatures measured during end-use tests. The temperature on the insulating tubing shall not exceed 125°C.
3. The lava end seal is ceramic and does not have a defined maximum temperature limit.
4. The end use product description should include the Style Number of the acceptable heater construction, electrical rating, length, diameter and thickness of the cartridge body.
5. These heaters have been evaluated for use in dry locations, the application of these heaters in any liquid medium, must be considered and evaluated in the end use application.
6. The heaters shall not be used in applications where corrosion to the heater would occur.
7. The suitability of the termination methods, which includes flexible or rigid sleeving, metal braid over lead wires or plugs with armor-covered cable is to be determined in the end-use application. The method of termination and the American wire gauge size of the wire must be described in the end-use devices.
8. Vibrations and mechanical shocks were not evaluated.
9. Suitable means for support and mounting of the heating element shall be provided with the end use device.
10. The heating element has been subjected to the dielectric voltage withstand test at a potential of 1000V. These devices have not been evaluated for wet contact with animals or humans.
11. The acceptability of any fittings and accessories, provided external to the basic heater construction, shall be evaluated as part of the end use product construction.

12. Leakage current is to be determined in accordance with and not to exceed the value as specified in the end-use product Standard.
13. These heaters were tested in a humidity chamber for 48 h with a relative humidity of 88 ± 2 percent at a temperature of $32 \pm 2^\circ\text{C}$.
14. The end-seal construction has not been evaluated for its ability to exclude water from the heating element.
15. The acceptability of these heaters immersed in liquid other than water or water-based solutions shall be investigated.
16. The suitability of the leads, including voltage rating AWG size and temperature rating, lead terminations and attachments are to be investigated in the end use and described.
17. The heater body shall be used in straight lengths only.
18. The temperature on the leads should be determined in the end use.
19. The acceptability of thermostats or thermal cutoffs or other optional components, their electrical ratings and their operation shall be determined in the end use products. The acceptable thermostat or thermal cutoff must be identified in the end use device description.