

Section 2

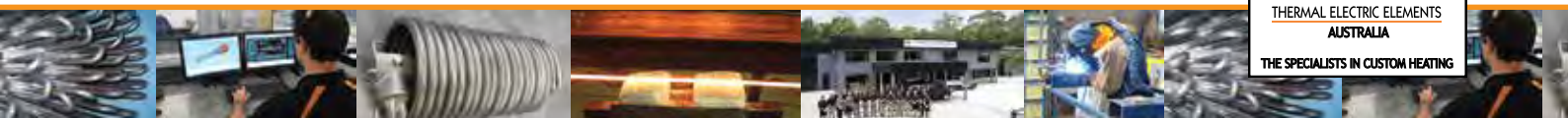
Element Construction & General Information



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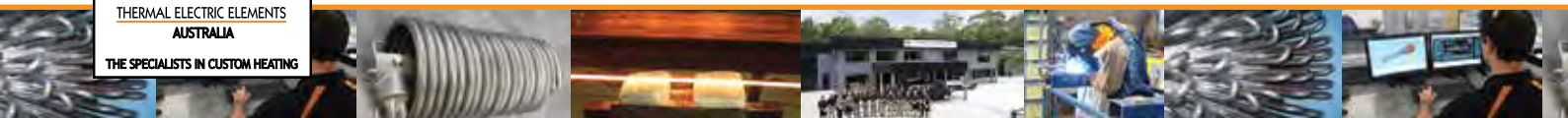
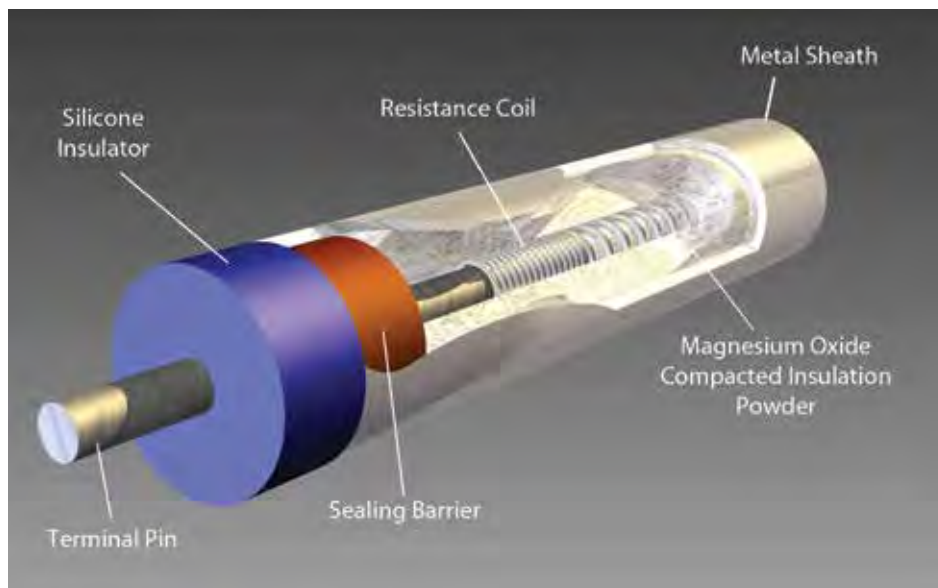


Element Construction & General Information

Thermal Tubular-Calrod heating elements are the most versatile of all electric heating elements and are widely used as the main source of electric heat for the domestic, commercial, industrial and scientific areas. With a vast range of sheath materials, shapes, voltages and wattages; they can be used in many applications.

Tubular elements can be immersed in liquids, cast into metals, clamped, placed in vessels and ducts to heat gases or simply used as radiant heaters for a variety of processes. They are easy to install, require low maintenance and have excellent internal electrical insulation and heat conduction.

Thermal Tubular-Calrod heating elements are manufactured with a resistance coil of nickel-chrome wire centrally located within a metal sheath tube. Terminal pins are fusion welded to each end of the resistance coil. These terminal pins are the cold zone of the heating element. The resistance coil assembly is stretched within the tube and filled with a magnesium oxide powder which electrically insulates the assembly from the outer sheath of the element. The magnesium oxide powder has excellent heat transfer properties and when combined with an evenly stretched resistance coil, a uniform heat is achieved along the length of the heating element. Once filled, the heating element is then roll compacted which compresses the magnesium oxide powder to a rock hard construction. This protects the resistance assembly from atmospheric corrosion and mechanical damage. The heating element is then trimmed at each end to expose the terminal pin. Silicone insulators are used to insulate the terminal pin from the outer sheath of the element and a terminal connection is fitted. Various terminals, flanges, mounting bushes or plates, heat dissipation fins, terminal boxes and more can be fitted to suit all installations.



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