FOUNDRY INSIGHT
Improving Performance in Production
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PYROTEK THERMOCOUPLES OFFER COMPLETE TEMPERATURE-SENSING SOLUTIONS

SPECIALLY ENGINEERED DEVICES BOOST MOLTEN METAL APPLICATIONS

With over 60 years experience in the thermocouple technology field, Pyrotek offers a complete line of custom-manufactured TC elements, protection tubes and assemblies for a wide range of molten metal and industrial applications, including aluminium, foundry and diecasting. Optimizing the design, materials and construction of these key specialized devices is based on Pyrotek's leading edge expertise in high-temperature materials and its references in mainstream metals and glass manufacturing sectors, for performance-improving technical products, systems and services worldwide.

Pyrotek offers a broad range of thermocouple assemblies

Selecting the correct temperature-measuring solution for a specific application or process is vital and Pyrotek's specialist global technical sales engineers can assist customers in determining which assembly, element and element options offer the greatest advantage to their operation.

A wide variety of thermocouple protection tubes are offered, combined with an extensive range of elements to provide a total solution for customers' entire temperature measuring needs. As a vital element in boosting productivity—and performance—more accurate temperature measurement with Pyrotek thermocouples means less costly scrap, better heat control and vital cost savings.

THERMOCOUPLE ELEMENTS AND ASSEMBLIES

Pyrotek offers three basic types of base metal thermocouples: insulated wire; bare elements, and ceramic insulated elements. These elements are stocked in a variety of gauges ranging from 8–14 and in J, K and N calibrations.

Fiberglass insulated elements with protective tubing are capable of temperatures up to 900°F (482°C). Noble metal elements offer the advantages of handling higher temperatures and providing greater accuracy than base metal elements. Mineral insulated (MgO) elements are fast responding, durable and capable of handling high temperatures to 2200°F (1204°C). The Pyro-Pak elements, with their protective metal outer sheath and smaller diameter conductors, outperform bare wire elements, and are stocked in a variety of diameters and stainless steel grades.

THERMOCOUPLE PROTECTION TUBES

Pyrotek offers a wide range of TCPTs in a variety of materials.

RFM® thermocouple protection tubes are specifically designed to provide a robust non-wetting product that will result in longer life. The RFM composite is a fiberglass-reinforced material with extremely high thermal shock resistance, and the ability to withstand mechanical abuse. With an O'-Sialon tip it has excellent thermal conductivity which results in fast response time to temperature fluctuations.

O'-Sialon tubes are a composite of SiC and O'-Sialon materials and are ideally suited for use in molten aluminium applications. They are non-wetted by aluminium, have a high level resistance to oxidation, chemical corrosion and abrasion and excellent thermal response properties.

Pyrotek's Pinnacle thermocouple protection tubes offer a superior alternative to other tubes in temperature measurement. This tube provides excellent thermal shock resistance, less dross buildup at the metal line, and can provide longer life.

Cast iron tubes are designed to provide excellent physical strength for demanding environments including aluminium and zinc melting furnaces, the charging of scrap and ingot, as well as other applications requiring physical strength. Its design creates a robust and durable option for temperature measurement. An optional ceramic-based enamel coating provides for longer life and less routine maintenance than the uncoated tube.

A wide variety of other protection tubes are stocked to meet all molten metal and industrial applications. These include clay bonded silicon carbide; ceramic bonded alumina refractory; recrystallized silicon carbide; Sialon and silicon nitride; alumina and mullite, and various metal alloys.

www.pyrotek.info/thermocouples