



Direct Reduced Iron (DRI) Wire Rope Multipoint Thermocouple



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Since 1972, Temp-Pro has been supplying a complete range of temperature sensors and related products designed to serve the needs of multiple industries. Temp-Pro continues to evolve and serve the needs of the most demanding of customers through integrated in-house manufacturing.

Temp-Pro products are found in:

- Temperature Sensors
- Thermowells
- Electrical Enclosures
- Electro-Mechanical Assembly
- Cable & Harness
- Miscellaneous Instruments & Accessories

Proper storage and monitoring are critical for Cold Direct Reduced Iron (CDRI), as this reduced iron in pellet form is highly reactive and can reoxidize when exposed to water or air at elevated temperatures, making continuous temperature management essential.

Cold DRI (CDRI) should be stored at temperatures below 65°C (149°F). CDRI is reduced iron in pellet form that can reoxidize when exposed to water or air at temperatures above 80°C.



Temperature sensors, connected to and monitored by the control room, should be installed at minimum three levels within the silo in order to monitor the temperature of the DRI.

- ▶ Multi-level sensors (50+ feet)
- ▶ Extend service life
- ▶ Reduce replacement costs
- ▶ Operate with greater degree of safety
- ▶ Reduce down time



REQUEST A FREE QUOTE FROM TEMP-PRO TODAY

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Temp-Pro Inc is a leader in the industry, supplying temperature sensor requirements for the most demanding industrial applications.

Direct Reduced Iron (DRI) Multipoint Thermocouple

KEY CONDITIONS:

- Oxidizing environment
- High vibration
- High load stresses upon sensor
- Multi-level process monitoring



- ▶ Flexible stranded wire rope thermocouple assembly (.645" diameter) made of multi-strand high temperature alloys
- ▶ The core of the structure houses a multipoint thermocouple assembly capable of providing up to eight independent temperature signals
- ▶ Flange mounting can be customized for specific installation requirements
- ▶ Flexibility and relatively light weight of the unit eliminated need of a crane for installation of the sensor
- ▶ Significant extension of service life and increased accuracy in temperature monitoring of this process has resulted in greater productivity at lower cost

Handling and Storage of DRI Products

KEY CONSIDERATIONS

- Maximize Iron Units:** Minimize fines and maintain product metallization to ensure optimal value
- Prevent Degradation:** Proper handling and storage are crucial to prevent degradation

STORAGE GUIDELINES

- Temperature Limit:** Avoid storing DRI above 65°C (149°F)
- Separation and Storage:** Isolate hot DRI, store separately, and pile no more than 1 meter high
- Monitoring:** Install temperature sensors at multiple levels within silos

SILO MANAGEMENT

- Temperature Monitoring:** Track temperature at minimum of three levels
- Sealing and Purging:** Seal and purge from the top if temperature exceeds 65-75°C (149-167°F)
- Removal:** Remove DRI if temperature surpasses 90°C (194°F)

BEST PRACTICES

- Real-time Monitoring:** Connect temperature sensors to the control room
- Regular Checks:** Ensure timely intervention to prevent overheating

By adhering to these guidelines, steelmakers can preserve the quality and value of DRI products.

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