

MAXLIFE™ SILICON CARBIDE PLATINUM THERMOCOUPLE

Reotemp's MaxLife™ Silicon Carbide Platinum Thermocouple is designed to maximize thermocouple lifespan in the harsh Steel Mill environment. Our 3 layer design provides extra durability to help protect against the high temperatures, thermal shock, corrosive gases and debris found in furnaces and throughout the steel production process.



Made in USA



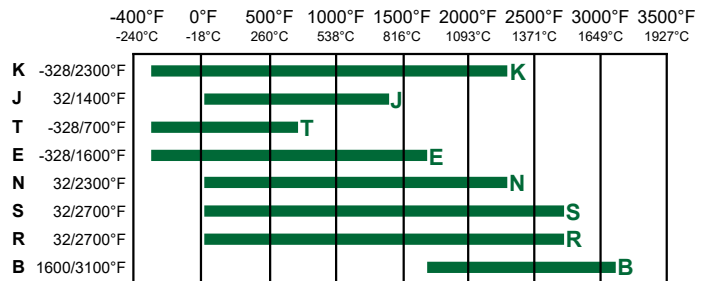
FEATURES / BENEFITS

- Robust Thermocouple Built for the Harsh Steel Mill Environment.
- 3 Layers of Protection
- Multiple Stem Lengths
- Single or Dual Thermocouples

SPECIFICATIONS

Sensor Type	Type S (Standard), R, B, K, J
Tube Materials	Silicon Carbide, Mullite, Alumina, Hexaloy
Maximum Process Temperature	Mullite: Up to 2700°F Hexaloy: Up to 3000°F in Air Alumina: Up to 3400°F Silicon Carbide: Up to 2,730°F

THERMOCOUPLE TEMPERATURE OPERATING RANGES



Type S Thermocouple
High Purity Platinum and Rhodium/Platinum Alloy
Measures up to 2,700°F



Secondary Mullite Protection Tube
Low Thermal Expansion and High Mechanical Strength
Reduces Wear and Extends Life of Thermocouple



Third Layer of Protection
Ultra-Tough Silicon Carbide Shield
Chemically Inert with Excellent Thermal Shock and Protection Against Corrosive Gases and Debris

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THEMOCOUPLS

COMMON APPLICATIONS

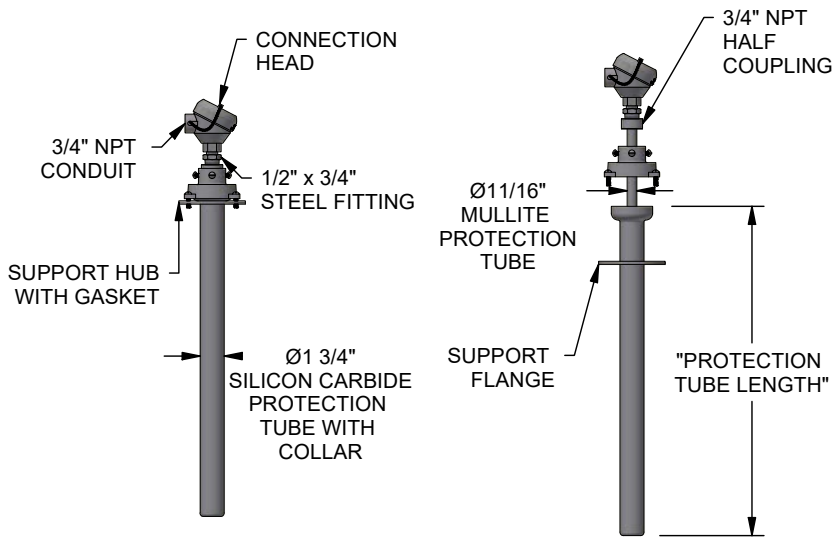
EAF/ BOF Furnace - Single Roof/ Dual Roof



Reheat Furnace/ Rolling Mill



DRAWINGS



PACKAGING

Extreme Care/Ultra Durable Packaging



Extra Padding for Safe Shipment




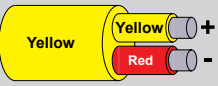
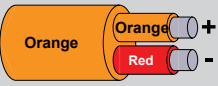

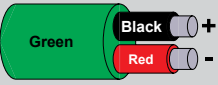
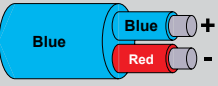
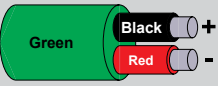
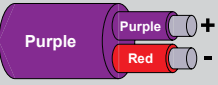

MAXLIFE™ SILICON CARBIDE PLATINUM THERMOCOUPLE

BUILD YOUR PROTECTION TUBE: Choose options to build a part number. For example: CTSAS24RBY24S

CTS	A	S	24	R	B
SERIES	HEAD TYPE/ CONNECTION	THERMOCOUPLE TYPE	WIRE GAUGE	INSULATOR	TUBE MATERIAL
CTS = Silicon Carbide Protection Tube Assembly	A = Cast Iron B = Cast Aluminum E = Explosion Proof Aluminum (FM, FMC, CSA)	<i>Noble Metal</i> S = Type S (Standard) R = Type R B = Type B SS = Dual Type S RR = Dual Type R BB = Dual Type B <i>Base Metal</i> J = Type J K = Type K JJ = Dual Type J KK = Dual Type K <i>For thermocouple accuracy information see page 5.</i> <i>For thermocouple temperature operating ranges see page 6.</i>	<i>Noble Metal</i> 24 = 24 AWG <i>Base Metal</i> 8 = 8 AWG 14 = 14 AWG 20 = 20 AWG	R = Round V = Oval (N/A With 20AWG)	B = Silicon Carbide Outer/Mullite Inner (Up to 2,700°F)
Y	24	S	[]		
TUBE OD/HEX FITTING PROCESS NPT	TUBE LENGTH "X"	PROCESS CONNECTION TYPE	OPTIONS		
Y = 1 3/4" O.D. Silicon Carbide With Collar Over 11/16" O.D. Mullite. 3/4" NPT Half Coupling	12 = 12" 18 = 18" 24 = 24" 30 = 30" 36 = 36" ?? = Length in Inches	S = Support Hub With Gasket and Support Flange	TS = SS Tag (1-10 Characters) TM = SS Tag (11-80 Characters) R1 = 1 Point Calibration Certificate (Factory Choice) R3 = 3 Point Calibration Certificate (Factory Choice) C1 = 1 Point Calibration Certificate (Customer Choice) C3 = 3 Point Calibration Certificate (Customer Choice) IJ = Insulated Hot Junction		

THERMOCOUPLES

REFERENCE INFORMATION

THERMOCOUPLE WIRE COLOR CODES (U.S.A. ANSI) 					
Thermocouple Grade	Extension Grade	Plug/Jack	Thermocouple Grade	Extension Grade	Plug/Jack
K		Yellow	N		Orange
J		Black	S		Green
T		Blue	R		Green
E		Purple	B		White

THERMOCOUPLE & RTD ACCURACIES

	Type K	Type J	Type T	Type E	Type N	Type S	Type R	Type B	RTD Class B	RTD Class A
-328°F	*	—	*	*	—	—	—	—	± 2.34°F	± 2.34°F
-148°F	*	—	*	*	—	—	—	—	± 1.44°F	± 1.44°F
32°F	± 3.96°F	± 3.96°F	± 1.8°F	± 3.06°F	± 3.96°F	± 2.7°F	± 2.7°F	—	± 0.54°F	± 0.27°F
392°F	± 3.96°F	± 3.96°F	± 2.7°F	± 3.06°F	± 3.96°F	± 2.7°F	± 2.7°F	—	± 2.34°F	± 0.99°F
752°F	± 5.4°F	± 5.4°F	—	± 3.6°F	± 5.4°F	± 2.7°F	± 2.7°F	—	± 4.14°F	± 4.14°F
1112°F	± 8.1°F	± 8.1°F	—	± 5.4°F	± 8.1°F	± 2.7°F	± 2.7°F	—	± 5.94°F	± 5.94°F
1472°F	± 10.8°F	—	—	± 7.2°F	± 10.8°F	± 3.6°F	± 3.6°F	—	—	—
1832°F	± 13.5°F	—	—	—	± 13.5°F	± 4.5°F	± 4.5°F	± 9°F	—	—
2192°F	± 16.2°F	—	—	—	± 16.2°F	± 5.4°F	± 5.4°F	± 10.8°F	—	—
2552°F	—	—	—	—	—	± 6.3°F	± 6.3°F	± 12.6°F	—	—
2912°F	—	—	—	—	—	—	—	± 14.4°F	—	—

Note: The accuracies in the above table are estimates given at fixed points, they do not apply to temperature ranges and are intended only as examples to give a general idea of what can be expected. Consult Reotemp if a specific accuracy is required or to confirm accuracies at any points not listed in the above table.

*Thermocouples are normally supplied to meet the tolerances specified in the table for temperatures above 32°F. The same materials, however, may not fall within the tolerances for temperatures below 32°F. If materials are required to meet the tolerances stated for temperatures below 32°F, contact Reotemp sales.

Looking for better accuracy?



Reotemp offers **RTDs** up to 5x more accurate than Class B RTDs with the Hi-Accuracy™ option.

Thermocouples up to 2x more accurate with the Special Limits of Error option.

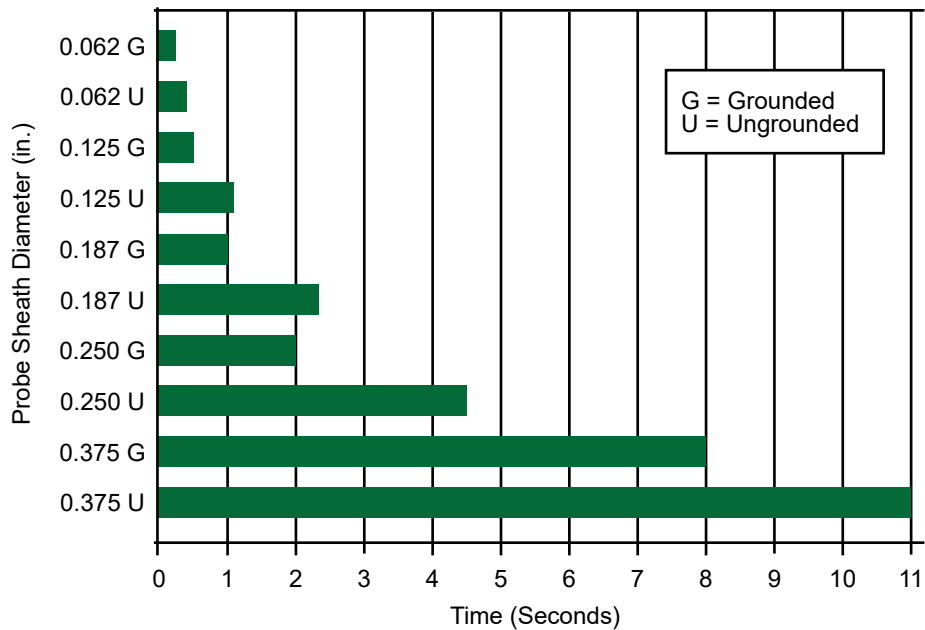
REFERENCE INFORMATION

THERMOCOUPLE TEMPERATURE OPERATING RANGES

Type	Minimum Temp. °F	Maximum Temp. °F
K	-328	2300
J	32	1400
T	-328	700
E	-328	1600
N	32	2300
S	32	2700
R	32	2700
B	1600	3100

THERMOCOUPLE TYPICAL RESPONSE TIMES

63.2% Temperature Change in an Agitated Water Bath



TEMP. LIMITS OF WIRE JACKETS

Jacket	Temp. Limit
PVC	221°F
Teflon	400°F
Std. Fiberglass	900°F
High Temp Fiberglass	1,300°F
Ceramic Fiberglass	2,200°F