

## 0.3mm/0.4mm/0.5mm R Type Platinum Rhodium Thermocouple Bare Wire

Our Product Introduction

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### Basic Information

- Place of Origin: China
- Brand Name: Victory
- Certification: CE,ROHS,ISO 9001
- Model Number: type R
- Minimum Order Quantity: 5 Kg
- Price: Negotiable
- Packaging Details: Thermocouple wire are rolled on ABS white spool and packed with plastic film,in cartoon boxes.  
Special packaging requirements can also be accommodated.  
OEM is also acceptable
- Delivery Time: 5-21 days
- Payment Terms: L/C, T/T, Western Union, MoneyGram
- Supply Ability: 300 tons per month



### Product Specification

- Product Name: Thermocouple Wire Type R
- Temperature Range: 0°C-1,600°C 32°F-2,912°F
- EMF Tolerance: +/- 1.5C Or +/- .25%
- Diameter: 0.1-8mm
- Grade: IEC854-1/3
- Positive: Platinum Rhodium
- Negative: Platinum
- Special Limits Of Error: +/- 0.6C Or 0.1%
- Certificate: ISO9001
- Color: Bright
- Application: Cable & Wire
- Highlight: **KN Thermocouple Bare Wire,**  
**KP Thermocouple Bare Wire,**  
**Nickel Chromel Alumel type k thermocouple wire**



### More Images



## Product Description

### Introduction:

The composition materials of R-type thermocouple bare wire are usually platinum-rhodium alloy wire (87% platinum, 13% rhodium) and pure platinum wire. This combination has good high-temperature stability and high accuracy, making the R-type thermocouple bare wire suitable for high-temperature measurement environments.

R-type thermocouple bare wire is a common thermocouple temperature measurement device, which is widely used in industrial control and scientific research fields in high-temperature environments. It consists of two alloy wires of different metals and measures temperature changes through the thermoelectric effect.

The structure of the R-type thermocouple bare wire is relatively simple and consists of two alloy wires. One end of the two wires is connected together to form a measurement point, and the other end is connected to a temperature measurement device, such as a temperature transmitter or data acquisition system. The measuring point is exposed to the environment to be measured, and temperature changes will cause a slight potential difference between the alloy wires. By measuring this potential difference, the temperature of the environment can be accurately calculated.

Type R thermocouple bare wire has many advantages, such as a wide high temperature measurement range (usually from 0 degrees Celsius to 1768 degrees Celsius), higher accuracy and reliability, and faster response time. It also has good corrosion resistance and low thermocouple resistance drift, making it suitable for applications requiring high accuracy and long-term stability.

### Characteristic:

**Thermocouple material:** R-type thermocouple bare wire is composed of platinum (Platinum) and rhodium (Rhodium) alloy. Platinum is the positive electrode of the R-type thermocouple bare wire, and rhodium is the negative electrode.

**High Temperature Range:** Type R thermocouple bare wire is suitable for a wide range of high temperature measurements, typically measuring temperatures from 0°C to 1,600°C (32°F to 2,912°F).

**Linear characteristics:** R-type thermocouple bare wire has excellent linear characteristics and can provide high-precision and stable temperature measurement results.

### Advantage:

**High temperature performance:** R-type thermocouple bare wire is suitable for temperature measurement in high temperature environments and has good stability and corrosion resistance.

**High precision:** R-type thermocouple bare wire has high precision and stability, providing accurate temperature measurement results.

**Wide temperature range:** Type R thermocouple bare wire is suitable for a wide range of temperature measurements, including high temperature and extremely low temperature environments.

### Relevant specific parameters:

**Temperature range:** 0°C to 1,600°C (32°F to 2,912°F)

**Thermoemf output:** Varies based on temperature changes, usually in the microvolt (μV) level.

**Linear characteristics:** Excellent linear characteristics.

**Sensitivity:** Varies based on specific model and manufacturer.

Code	Wire Component of the thermocouple	
	+Positive leg	- Negative Leg
N	Ni-Cr-Si(NP)	Ni-Si-magnesium (NN)
K	Ni-Cr(KP)	Ni-Al(Si) (KN)
E	Ni-Cr(EP)	Cu-Ni (EN)
J	Iron (JP)	Cu-Ni (JN)
T	Copper (TP)	Cu-Ni (TN)
B	Platinum Rhodium-30%	Platinum Rhodium -6%
R	Platinum Rhodium-13%	Platinum
S	Platinum Rhodium -10%	Platinum

### Standards:

ASTM	ANSI	IEC	DIN	BS	NF	JIS	GOST
(American Society for Testing and Materials) E 230	(American National Standard Institute) MC 96.1	(European Standard by the International Electrotechnical Commission 584)- 1/2/3	(Deutsche Industrie Normen) EN 60584 - 1/2	(British Standards) 4937.1041, EN 60584 - 1/2	(Norme Française) EN 60584 - 1/2 - NFC 42323 - NFC 42324	(Japanese Industrial Standards) C 1602 - C 1610	(Unification of the Russian Specifications) 3044

### Working temperature:

Diameter/mm	Type	Long time Working	Short period Working
		temperature/°C	temperature/°C
0.5	S	1300	1600
0.5	R	1300	1600
0.5	B	1600	1700

### Chemical Composition:

Conductor Name	Polarity	Code	Pt%	Rh%
Pt90Rh	Positive	SP	90	10
Pt	Negative	SN,RN	100	--
Pt87Rh	Positive	RP	87	13
Pt70Rh	Positive	BP	70	30
Pt94Rh	Negative	BN	94	6

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Oem service:

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**Specific application areas:**

High-temperature molten metal temperature measurement: R-type thermocouple bare wire is widely used in high-temperature molten metal temperature measurement, such as steel smelting, aluminum plants and other fields.

Chemical industry: R-type thermocouple bare wire is suitable for temperature monitoring and control of high-temperature reaction processes in the chemical industry.

Heat treatment industry: R-type thermocouple bare wire is widely used in the heat treatment industry, such as temperature measurement and control in high-temperature environments such as kilns and annealing furnaces.



**Q&A:**

What is the temperature range of R-type thermocouple bare wire?

A: Type R thermocouple bare wire typically has a temperature range between 0°C and 1,600°C.

What are the advantages of R-type thermocouple bare wire?

Answer: R-type thermocouple bare wire has the advantages of high temperature performance, high precision and wide temperature range.

What applications are R-type thermocouple bare wire suitable for?

Answer: R-type thermocouple bare wire is suitable for application fields such as temperature measurement of high-temperature molten metal, chemical industry, and heat treatment industry.



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