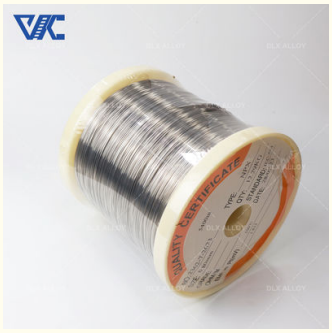
# Type TP TN TP 0.1mm Copper Constantan Thermocouple Bare Wire Type T

Our Product Introduction

## Basic Information

- Place of Origin: China
- Brand Name: Victory
- Certification: CE,ROHS,ISO 9001
- Model Number: type T
- 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 T
- Temperature Range: - 200~350°C
- EMF Tolerance: +/- 1.0C Or +/- .75%
- Diameter: 0.12-8mm
- Grade: IEC854-1/3
- Positive: Copper
- Negative: Cu-Ni (constantan)
- Special Limits Of Error: +/- 0.5C Or 0.4%
- Certificate: ISO9001
- Color: Bright
- Application: Cable & Wire
- Highlight: **Type B platinum rhodium thermocouple wire**, **PTFE platinum rhodium thermocouple wire**, **ISO9001 thermocouple wire**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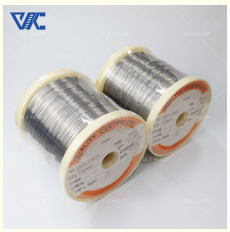
## More Images



Our Product Intr

## Product Description

### Introduction:

T-type thermocouple bare wire is a common temperature measurement device, widely used in industrial control and laboratory research fields. Copper-copper-nickel thermocouple (T-type thermocouple), also called copper-constantan thermocouple, is the best cheap metal thermocouple for measuring low temperatures. Its positive electrode (TP) is pure copper, and the negative electrode (TN) is a copper-nickel alloy, often called constantan. It is common with nickel-chromium-constantan constantan EN, but not with iron-constantan constantan JN, although they are both called constantan.
Copper - Copper-nickel thermocouple measuring temperature range is - 200~350°C.
The structure of the T-type thermocouple bare wire is relatively simple. It consists of two slender metal 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 sensor. Acquisition System. Typically, T-type thermocouple bare wires have smaller wire diameters to increase sensitivity and response speed.
When measuring temperature, the measuring point of the bare wire of the T-type thermocouple is exposed to the environment

that needs to be monitored. Temperature changes will cause a slight potential difference between the metal wires. There is a specific relationship between this potential difference and temperature, known as the thermoelectric effect. By measuring this potential difference, the temperature of the environment can be accurately calculated.
However, it should be noted that T-type thermocouple bare wires may oxidize and corrode in high-temperature environments, so in specific applications, protective measures may be required, such as the use of protective sleeves or coatings to extend their service life.

## Characteristic:

Thermocouple material: T-type thermocouple bare wire is composed of copper (Copper) and copper-nickel alloy (Constantan). Copper is the positive electrode of the bare wire of the T-type thermocouple, and Constantan is the negative electrode.
Temperature range: Type T thermocouple bare wire is suitable for lower temperature ranges, typically measuring temperatures from -200°C to 350°C (-328°F to 662°F).
Linear characteristics: T-type thermocouple bare wire has good linear characteristics and can provide relatively accurate temperature measurement.
Low drift: T-type thermocouple bare wire has low drift characteristics and can maintain relatively stable temperature measurements.

## Advantage:

Widely used: T-type thermocouple bare wire is widely used in industrial control and laboratory environments.
Corrosion resistance: T-type thermocouple bare wire has good corrosion resistance and is suitable for temperature measurement in some humid and corrosive environments.
Fast response: T-type thermocouple bare wire has fast temperature response capability and can quickly reflect temperature changes.

## Relevant specific parameters:

Temperature range: -200°C to 350°C (-328°F to 662°F)
Thermoemf output: Varies based on temperature changes, usually in the microvolt (μV) level.
Linear characteristics: Has good 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 |

| Using Occastion of Different Thermocouple | | | |
|---|---|---|---|
| Thermocouple Type | | Working Atmosphere | Working Temperature |
| Type K | KP | Oxidizing | -200 to +1200℃ |
| | KN | Inert | |
| Type N | NP | Oxidizing | -200 to +1200℃ |
| | NN | Oxidizing | |
| Type E | EP | Oxidizing | -200 to +900℃ |
| | EN | Oxidizing | |
| Type J | JP | Oxidizing(use in high temp) | -40 to +750℃ |
| | JN | Reducing, Inert, Vacuum | |
| Type T | TP | Oxidizing,Vacuum | -200 to +350℃ |
| | TN | Reducing, Vacuum | |

**Working temperature:**

| Diameter/mm | Long time Working temperature/°C | Short period Working temperature/°C |
|---|---|---|
| 0.2, 0.3 | 150 | 200 |
| 0.5, 0.8 | 200 | 250 |
| 1.0, 1.2 | 250 | 300 |
| 1.6, 2.0 | 300 | 350 |

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## Specific application areas:

Laboratory research: T-type thermocouple bare wire is widely used in scientific research and laboratory environments for measuring sample temperature, thermodynamic experiments, etc.
HVAC system: T-type thermocouple bare wire can be used for temperature monitoring in HVAC systems, such as temperature control, environmental monitoring, etc.
Biomedical: T-type thermocouple bare wire is often used in biomedical fields, such as body temperature monitoring, laboratory

research, etc.

## Q&A:

What is the temperature range of T-type thermocouple bare wire?
Answer: The temperature range of T-type thermocouple bare wire is usually between -200°C and 350°C.

What are the advantages of T-type thermocouple bare wire?
Answer: T-type thermocouple bare wire has the advantages of wide application, corrosion resistance and fast response.

What applications are T-type thermocouple bare wire suitable for?
Answer: T-type thermocouple bare wire is suitable for laboratory research, HVAC systems and biomedical applications.

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