

Thermocouple Types:



Thermocouple type	Overall range	Typical accuracy*	Comments
Type B (Platinum / Rhodium)	100 to 1800	5 °C (at 1000°C)	Suited for high temperature measurements. Unusually, type B thermocouples give the same output at 0 °C and 42 °C. This makes them useless below 50 °C.
Type E (Chromel / Constantan)	-200 to 900	1.7 °C	Type E has a high output (68 µV/°C) which makes it well suited to low temperature (cryogenic) use. Another property is that it is non-magnetic.
Type J (Iron / Constantan)	-40 to 760	2.2 °C	Limited range makes type J less popular than type K. J types should not be used above 760°C as an abrupt magnetic transformation will cause permanent decalibration.
Type K (Chromel / Alumel)	-200 to 1300	2.2 °C	Type K is the 'general purpose' thermocouple. It is low cost and popular. Sensitivity is approx 41 µV/°C. Use type K unless you have a good reason not to.
Type N (Nicrosil / Nisil)	-200 to 1300	2.2 °C	High stability and resistance to high temperature oxidation makes type N suitable for high temperature measurements without the cost of platinum (B,R,S) types. Designed to be an 'improved' type K, it is becoming increasingly popular.
Type R (Platinum / Rhodium)	-50 to 1760	1.5 °C	Suited for high temperature measurements up to 1600 °C. Low sensitivity (10 µV/°C) and high cost makes them unsuitable for general purpose use.
Type S (Platinum / Rhodium)	-50 to 1760	1.5 °C	Suited for high temperature measurements up to 1600 °C. Low sensitivity (10 µV/°C) and high cost makes them unsuitable for general purpose use. Due to its high stability type S is used as the standard of calibration for the melting point of gold (1064.43 °C).
Type T (Copper / Constantan)	-200 to 400	1 °C	Best accuracy of common thermocouples, often used for food monitoring and environmental applications.

PICO Technology, 2020. Improving the accuracy of temperature measurements,
<https://www.picotech.com/library/application-note/improving-the-accuracy-of-temperature-measurements>