

Thermocouple wire color coding & characteristics

ANSI Code	ANSI MC 96.1 Color Coding		Alloy Combination		Maximum T/C Grade Temp. Range	IEC 584-3 Color Coding		IEC Code
	Thermocouple Grade	Extension Grade	+ Lead	- Lead		Thermocouple Grade	Intrinsically Safe	
J			IRON Fe (magnetic)	CONSTANTAN COPPER-NICKEL Cu-Ni	-210 to 1200°C -346 to 2193°F			J
K			NICKEL-CHROMIUM Ni-Cr	NICKEL-ALUMINUM Ni-Al (magnetic)	-270 to 1372°C -454 to 2501°F			K
T			COPPER Cu	CONSTANTAN COPPER-NICKEL Cu-Ni	-270 to 400°C -454 to 752°F			T
E			NICKEL-CHROMIUM Ni-Cr	CONSTANTAN COPPER-NICKEL Cu-Ni	-270 to 1000°C -454 to 1832°F			E
N			NICROSIL Ni-Cr-Si	NISIL Ni-Si-Mg	-270 to 1300°C -450 to 2372°F			N
R	NONE ESTABLISHED		PLATINUM-13% RHODIUM Pt-13% Rh	PLATINUM Pt	-50 to 1768°C -58 to 3214°F			R
S	NONE ESTABLISHED		PLATINUM-10% RHODIUM Pt-10% Rh	PLATINUM Pt	-50 to 1768°C -58 to 3214°F			S
U	NONE ESTABLISHED		COPPER Cu	COPPER-LOW NICKEL Cu-Ni				U
B	NONE ESTABLISHED		PLATINUM-30% RHODIUM Pt-30% Rh	PLATINUM-6% RHODIUM Pt-6% Rh	0 to 1820°C 32 to 3308°F			B

RTD tolerance chart

Temperature °C	Resistance Value Ω	Tolerance DIN-IEC-751	
		Class A °C (Ω)	Class B °C (Ω)
-200	18.52	±0.55-(±0.24)	±1.3-(±0.56)
-100	60.26	±0.35-(±0.14)	±0.8-(±0.32)
0	100.00	±0.15-(±0.06)	±0.3-(±0.12)
100	138.51	±0.35-(±0.13)	±0.8-(±0.30)
200	175.86	±0.55-(±0.20)	±1.3-(±0.48)
300	212.05	±0.75-(±0.27)	±1.8-(±0.64)
400	247.09	±0.95-(±0.33)	±2.3-(±0.79)
500	280.98	±1.15-(±0.38)	±2.8-(±0.93)
600	313.71	±1.35-(±0.43)	±3.3-(±1.06)
650	329.64	±1.45-(±0.46)	±3.6-(±1.13)