
























Thermocouples must be selected to meet application conditions and only general recommendations of size and type can be given. Selection considerations involve useful length of service life, temperature, atmosphere, and response time. Smaller gauges provide faster response times and less service life. Larger gauges provide longer service life and reduced response times. The recommended temperature limits below are to be used as a guideline in the selection process, and the table applies only to thermocouples protected by a suitable protecting tube, sheath, or well. The color coding chart below provides ANSI/ASTM standard color codes found on thermocouple wire, extension wire, and plug and jack connectors.

Suggested Upper Temperature Limits For Protected Industrial Thermocouples

TYPE	MAXIMUM TEMPERATURE						
	8 GAUGE	11 GAUGE	14 GAUGE	20 GAUGE	24 GAUGE	28 GAUGE	30 GAUGE
	°C [°F]	°C [°F]	°C [°F]	°C [°F]	°C [°F]	°C [°F]	°C [°F]
T			370 [700]	260 [500]	200 [400]	200 [400]	150 [300]
J	760 [1400]		590 [1100]	480 [900]	370 [700]	370 [700]	320 [600]
E	870 [1600]		650 [1200]	540 [1000]	430 [800]	430 [800]	370 [700]
K, N	1260 [2300]		1090 [2000]	980 [1800]	870 [1600]	870 [1600]	760 [1400]
M		1287 [2250]	1287 [2250]				
R, S					1480 [2700]		
B					1700 [3100]		
C					2330 [4200]		

THERMO- COUPLE TYPE	U.S. & CANADIAN (ANSI/ASTM E230, ANSI/MC96.1)			
	ALLOY COMBINATION	THERMOCOUPLE GRADE	EXTENSION GRADE	PLUG & JACK
T	Copper	Brown  + Blue - Red	+ Blue  Blue - Red	Blue 
	Constantan (Copper-Nickel)			
J	Iron (magnetic)	Brown  + White - Red	+ White  Black - Red	Black 
	Constantan (Copper-Nickel)			
E	Nickel - Chromium	Brown  + Purple - Red	+ Purple  Purple - Red	Purple 
	Constantan (Copper-Nickel)			
K	Nickel - Chromium	Brown  + Yellow - Red	+ Yellow  Yellow - Red	Yellow 
	Nickel - Aluminium (magnetic)			
N	Nicrosil (Nickel-Chromium- Silicon)	Brown  + Orange - Red	+ Orange  Orange - Red	Orange 
	Nisil (Nickel-Silicon-Magnesium)			
S	Platinum Rhodium -10%	None Established	+ Black  Green - Red	Green 
	Platinum			
R	Platinum Rhodium -13%	None Established	+ Black  Green - Red	Green 
	Platinum			
B	Platinum Rhodium - 30%	None Established	+ Gray  Gray - Red	White (Uncom- pensated)
	Platinum Rhodium - 6%		(Compensated Cable)	
C	Tungsten Rhenium - 5%	None Established	+ Green  Red - Red	Red 
	Tungsten Rhenium - 26%			