

Thermocouple Output Tolerances

Thermocouple Types IEC 60584.1 (BS EN 60584.1)		Temperature Range (continuous)	IEC 60584.2 (BS EN 60584.2)		
			Class 1	Class 2	
K	+	Nickel Chromium	0°C to +1100°C	-40°C to +375°C ±1.5°C +375°C to +1000°C ±0.004 x t	-40°C to +333°C ±2.5°C +333°C to +1200°C ±0.0075 x t
	-	Nickel Aluminium			
J	+	Iron	-50°C to +750°C	-40°C to +375°C ±1.5°C +375°C to +750°C ±0.004 x t	-40°C to +333°C ±2.5°C +333°C to +750°C ±0.0075 x t
	-	Constantan			
T	+	Copper	-200°C to +350°C	-40°C to +125°C ±0.5°C +125°C to +350°C ±0.004 x t	-40°C to +133°C ±1.0°C +133°C to +350°C ±0.0075 x t
	-	Constantan			
N	+	Nicrosil	0°C to +1200°C	-40°C to +375°C ±1.5°C +375°C to +1000°C ±0.004 x t	-40°C to +333°C ±2.5°C +333°C to +1200°C ±0.0075 x t
	-	Nisil			
E	+	Nickel Chromium	-200°C to +900°C	-40°C to +375°C ±1.5°C +375°C to +800°C ±0.004 x t	-40°C to +333°C ±2.5°C +333°C to +900°C ±0.0075 x t
	-	Constantan			
R	+	Platinum 13% Rhodium	0°C to +1600°C	0 to +1100°C ±1.0°C +1100°C to +1600°C ±(1+0.003(t-1100)) °C	0°C to +600°C ±1.5°C +600°C to +1600°C ±0.0025 x t
	-	Platinum			
S	+	Platinum 10% Rhodium	0°C to +1550°C	0 to +1100°C ±1.0°C +1100°C to +1600°C ±(1+0.003(t-1100)) °C	0°C to +600°C ±1.5°C +600°C to +1600°C ±0.0025 x t
	-	Platinum			
B	+	Platinum 30% Rhodium	+100°C to +1600°C	-	+600°C to +1700°C ±0.0025 x t
	-	Platinum 6% Rhodium			
G_(W)*	+	Tungsten	+20°C to +2320°C	-	0°C to +425°C ±4.5°C +426°C to +2320°C ±1.0%
	-	Tungsten 26% Rhenium			
C_(W5)*	+	Tungsten 5% Rhenium	+20°C to +2320°C	-	0°C to +425°C ±4.4°C +426°C to +2320°C ±1.0%
	-	Tungsten 26% Rhenium			
D_(W3)*	+	Tungsten 3% Rhenium	+20°C to +2320°C	-	0°C to +400°C ±4.5°C +401°C to +2320°C ±1.0%
	-	Tungsten 25% Rhenium			

* Not to IEC 60584 (no official recognised standard)

Thermocouple Cables

Colour Codes and Conductors

Type	Conductor Materials + / -	Conductor Grade (Extension / Compensating)	International IEC 60584.3 (BS EN 60584.3)	British BS1843 (now redundant)	American ANSI MC96.1
KX	+	Nickel Chromium (Chromel, T1)	Extension		
	-	Nickel Aluminium (Alumel, T2)			
KCB	+	Copper	Compensating for Type K (connect to type K thermocouple between 0°C and 100°C)		
	-	Copper-Nickel (Constantan)			
JX	+	Iron	Extension		
	-	Copper-Nickel (Constantan)			
TX	+	Copper	Extension		
	-	Copper-Nickel (Constantan)			
NX	+	Nicrosil	Extension		
	-	Nisil			
EX	+	Nickel Chromium	Extension		
	-	Copper-Nickel (Constantan)			
RCA	+	Copper	Compensating for Type R (connect to type R thermocouple between 0°C and 100°C)		
	-	Copper-Low Value Nickel			
SCA	+	Copper	Compensating for Type S (connect to type S thermocouple between 0°C and 100°C)		
	-	Copper-Low Value Nickel			
BC	+	Copper	Compensating for Type B (connect to type B thermocouple between 0°C and 100°C)		
	-	Copper			
CX	+	Alloy 405	Compensating for Type C (W5) (connect to type C thermocouple)		
	-	Alloy 426			

