

## Reference table: letter-designated thermocouple tolerances

This table indicates tolerances on initial values of electromotive force versus temperature for letter designated thermocouples types listed in NIST monograph 175. They apply only to new thermocouple wire. Properties of thermocouple wire will change

with time and use. Due to changes in homogeneity, calibration of used thermocouples unless performed in-situ may yield irrelevant results. All tolerances are in degrees Celsius and a reference junction temperature of 0 °C (32 °F) is assumed.

T (°C)	Standard Tolerances							Special Tolerances					
	T	J	E	K	N	R or S	B	T	J	E	K or N	R or S	B
-200	± 3.0		± 2.0	± 4.0									
-150	± 2.3		± 1.7	± 3.0									
-100	± 1.5		± 1.7	± 2.2									
-50	± 1.0		± 1.7	± 2.2									
0	± 1.0	± 2.2	± 1.7	± 2.2	± 2.2	± 1.5		± 0.5	± 1.1	± 1.0	± 1.1	± 0.6	
50	± 1.0	± 2.2	± 1.7	± 2.2	± 2.2	± 1.5		± 0.5	± 1.1	± 1.1	± 1.1	± 0.6	
100	± 1.0	± 2.2	± 1.7	± 2.2	± 2.2	± 1.5		± 0.5	± 1.1	± 1.2	± 1.1	± 0.6	
150	± 1.1	± 2.2	± 1.7	± 2.2	± 2.2	± 1.5		± 0.6	± 1.1	± 1.3	± 1.1	± 0.6	
200	± 1.5	± 2.2	± 1.7	± 2.2	± 2.2	± 1.5		± 0.8	± 1.1	± 1.4	± 1.1	± 0.6	
250	± 1.9	± 2.2	± 1.7	± 2.2	± 2.2	± 1.5		± 1.0	± 1.1	± 1.5	± 1.1	± 0.6	
300	± 2.3	± 2.3	± 1.7	± 2.3	± 2.3	± 1.5		± 1.2	± 1.2	± 1.2	± 1.2	± 0.6	
350	± 2.6	± 2.6	± 1.8	± 2.6	± 2.6	± 1.5		± 1.4	± 1.4	± 1.4	± 1.4	± 0.6	
400		± 3.0	± 2.0	± 3.0	± 3.0	± 1.5			± 1.6	± 1.6	± 1.6	± 0.6	
450		± 3.4	± 2.3	± 3.4	± 3.4	± 1.5			± 1.8	± 1.8	± 1.8	± 0.6	
500		± 3.8	± 2.5	± 3.8	± 3.8	± 1.5			± 2.0	± 2.0	± 2.0	± 0.6	
550		± 4.1	± 2.8	± 4.1	± 4.1	± 1.5			± 2.2	± 2.2	± 2.2	± 0.6	
600		± 4.5	± 3.0	± 4.5	± 4.5	± 1.5			± 2.4	± 2.4	± 2.4	± 0.6	
650		± 4.9	± 3.3	± 4.9	± 4.9	± 1.6			± 2.6	± 2.6	± 2.6	± 0.7	
700		± 5.3	± 3.5	± 5.3	± 5.3	± 1.8			± 2.8	± 2.8	± 2.8	± 0.7	
750		± 5.6	± 3.8	± 5.6	± 5.6	± 1.9			± 3.0	± 3.0	± 3.0	± 0.8	
800			± 4.0	± 6.0	± 6.0	± 2.0				± 3.2	± 3.2	± 0.8	
850			± 4.3	± 6.4	± 6.4	± 2.1				± 3.4	± 3.4	± 0.9	
900			± 4.5	± 6.8	± 6.8	± 2.3	± 4.5			± 3.6	± 3.6	± 0.9	± 2.3
950				± 7.1	± 7.1	± 2.4	± 4.8				± 3.8	± 1.0	± 2.4
1000				± 7.5	± 7.5	± 2.5	± 5.0				± 4.0	± 1.0	± 2.5
1050				± 7.9	± 7.9	± 2.6	± 5.3				± 4.2	± 1.1	± 2.6
1100				± 8.3	± 8.3	± 2.8	± 5.5				± 4.4	± 1.1	± 2.8
1150				± 8.6	± 8.6	± 2.9	± 5.8				± 4.6	± 1.2	± 2.9
1200				± 9.0	± 9.0	± 3.0	± 6.0				± 4.8	± 1.2	± 3.0
1250				± 9.4	± 9.4	± 3.1	± 6.3				± 5.0	± 1.3	± 3.1
1300						± 3.3	± 6.5					± 1.3	± 3.3
1350						± 3.4	± 6.8					± 1.4	± 3.4
1400						± 3.5	± 7.0					± 1.4	± 3.5
1450						± 3.6	± 7.3					± 1.5	± 3.6
1500							± 7.5						± 3.8
1550							± 7.8						± 3.9
1600							± 8.0						± 4.0
1650							± 8.3						± 4.1
1700							± 8.5						± 4.3