Thermocouple Tolerance Class Table (IEC 60584)

Basis: IEC 60584 1:2013 tolerance classes. The tolerance is the larger of the fixed value and the percentage of |t| within each range. |t| is the temperature in °C without sign.

instrumentationblog.in/downloads/engineering-reference-tables/thermocouple-tolerance-class-table/

Tolerance classes by thermocouple type

Type	Class	Temperature range	Tolerance
K, N	1	−40 to 375 °C	± 1.5 °C
K, N	1	375 to 1000 °C	± 0.004 × |t|
K, N	2	−40 to 333 °C	± 2.5 °C
K, N	2	333 to 1200 °C	± 0.0075 × |t|
K, N	3	−167 to 40 °C	± 2.5 °C
K, N	3	−200 to −167 °C	± 0.015 × |t|
J	1	−40 to 375 °C	± 1.5 °C
J	1	375 to 750 °C	± 0.004 × |t|
J	2	−40 to 333 °C	± 2.5 °C
J	2	333 to 750 °C	± 0.0075 × |t|
T	1	−40 to 125 °C	± 0.5 °C
T	1	125 to 350 °C	± 0.004 × |t|
T	2	−40 to 133 °C	± 1.0 °C
T	2	133 to 350 °C	± 0.0075 × |t|
T	3	−67 to 40 °C	± 1.0 °C
T	3	−200 to −67 °C	± 0.015 × |t|
E	1	−40 to 375 °C	± 1.5 °C
E	1	375 to 800 °C	± 0.004 × |t|
E	2	−40 to 333 °C	± 2.5 °C
E	2	333 to 900 °C	± 0.0075 × |t|
E	3	−167 to 40 °C	± 2.5 °C
E	3	−200 to −167 °C	± 0.015 × |t|
R, S	1	0 to 1100 °C	± 1.0 °C
R, S	1	1100 to 1600 °C	± [1 + 0.003 × (t − 1100)]
R, S	2	−40 to 600 °C	± 1.5 °C
R, S	2	600 to 1600 °C	± 0.0025 × |t|
B	2	600 to 1700 °C	± 0.0025 × |t|
B	3	600 to 800 °C	± 4 °C
B	3	800 to 1700 °C	± 0.005 × |t|

Worked limits at common temperatures (± °C)

°C	K or N class 1	K or N class 2	T class 1	T class 2
0	1.5	2.5	0.5	1.0
100	1.5	2.5	0.5	1.0
200	1.5	2.5	0.8	1.5
300	1.5	2.5	1.2	2.2
400	1.6	3.0		
500	2.0	3.8		
600	2.4	4.5		

800	3.2	6.0		
1000	4.0	7.5		
1200		9.0		

Notes

- Tolerances apply to new wire as supplied. Drift in service is extra.
- ANSI MC96.1 'special limits' are close to IEC class 1 and 'standard limits' close to class 2.

Free download from instrumentationblog.in. Check values against the current edition of the standard for design work.