

4) What is the initial accuracy of temperature sensors?

ASTM E-230 Letter	Thermoelement Alloys	Temperature Range		As per ASTM E-230 Tolerances * Which ever is greater		Caution
		°C	°F	Standard	Special	
B		870 to 1700	1600 to 3100	± .5%	± .25%	<p>Users should be aware that certain characteristics of thermocouple materials, including the EMF vs. temperature relationship may change with time in use; consequently, test results and performance obtained at time of manufacture may not necessarily apply throughout an extended period of use.</p> <p>Tolerances given above apply only to new wire as delivered to the user and do not allow for changes in characteristics with use. The magnitude of such changes will depend on such factors as wire size, temperature, time of exposure and environment. It should be further noted that due to possible changes in homogeneity, attempting to recalibrate used thermocouples is likely to yield irrelevant results, and is not recommended. However, it may be appropriate to compare used thermocouples in-situation with new or known good ones to ascertain their suitability for further service under the conditions of the comparison.</p>
BP (-)	Pt 30% Rh					
BN (-)	Pt 6% Rh					
E		0 to 870	32 to 1600	± 1.7°C or ± .5% (± 3.06°F) *	± 1.0°C or ± .4% (± 1.8°F) *	
EP (+)	Chromel					
EN (-)	Constantan					
J		0 to 760	32 to 1400	± 2.2 °C or ± .75% (± 3.96°F) *	± 1.1°C or ± .4% (± 1.98°F) *	
JP (+)	Iron					
JN (-)	Constantan					
K		0 to 1260	32 to 2300	± 2.2°C or ± .75% (± 3.96°F) *	± 1.1°C or ± .4% (± 1.98°F) *	
KP (+)	Chromel					
KN (-)	Alumel					
N		0 to 1260	32 to 2300	± 2.2 °C or ± .75% (± 3.96°F) *	± 1.1°C or ± .4% (± 1.98°F) *	
NP (+)	Nicrosil					
NN (-)	Nisil					
R		0 to 1480	32 to 2700	± 1.5 °C or ± .25% (± 2.7°F) *	± .6°C or ± .1% (± 1.08°F) *	
RP (+)	Pt 13% Rh					
RN (-)	Pure Pt					
S		0 to 1480	32 to 2700	± 1.5 °C or ± .25% (± 2.7°F) *	± .6°C or ± .1% (± 1.08°F) *	
SP (+)	Pt 10% Rh					
SN (-)	Pure Pt					
T		0 to 370	32 to 700	± 1.0°C or ± .75% (± 1.8°F) *	± .5°C or ± .4% (± .9°F) *	
TP (+)	Copper					
TN (-)	Constantan					
		-200 to 0	-328 to 32	± 1.0°C or ± .15%	± .5°C or ± .8%	



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