

**PTFE INSULATED & SS Shielded Thermocouple Wire Max. Temp. Up to 260 °C**



*PTFE Insulation becomes an excellent solution where chemical fumes & other liquids make all type of Insulation vulnerable as it is chemically inert to most of industrial chemicals. It has outstanding mechanical & electrical properties and has temperature range from -65 °C to 260 °C.*

*ELTEC PTFE Insulated Thermocouple Wires conforms to US Military MIL – W – 16878 and Indian defense specifications JSS 51034. As per these standards, these wires are classified in three main working voltage grades.*

**HV TEST**

GRADE	SPARK TESTING	DIE ELECTRIC TESTING
ET (250 V)	2500 V AC	1500 V AC
E (600 V)	3400 V AC	2000 V AC
EE (1000 V)	5000 V AC	3000 V AC

**APPLICATIONS**

- Manufacturing of Temperature Sensors
- Aerospace & Cryogenics
- Power Generating Plants
- Chemical & Petroleum Plants
- Laboratories
- Field Heat Treating
- Packaging

**PRODUCT FEATURES**

- Continuous use up to 260 °C
- Single exposure up to 400 °C
- Inert to most chemical & fluids
- Unaffected by lubricants
- Flame Retardant
- Shielded construction provides noise reduction
- Resistant to gamma radiation

**PRODUCT SPECIFICATIONS:**

Conductor	Solid or stranded thermocouple extension wires from 12 AWG to 24 AWG (2.44mm to 0.51mm)
Core Insulation	Fused PTFE tape
Construction	Parallel Conductors
No. of Pair	1
Inner Sheath	Fused PTFE tape
Shield	Copper / SS Braid
Outer Sheath	Fused PTFE tape
Color Coding	Confirms to ANSI MC 96.1 (International Color Code Available), Refer Table

- Other sizes in SWG and also different construction in other stranded sizes are available on request
- Optional construction of twisted conductors.
- Duplex construction are also available
- Optional Color coding: IEC 60584 – 3, BS 1843, DIN 13711, JIS C 1610 – 1981, NFC 42334 as per requirement

TYPE OF TC	Metal Alloy + ve leg	Metal Alloy – ve leg	Thermal Tolerance
J	Fe	Cu Ni	ASTM E 230 – ANSI MC 96.1 & IEC EN 60584 - 2
K	Ni Cr	Ni Al	ASTM E 230 – ANSI MC 96.1 & IEC EN 60584-2
T	Cu	Cu Ni	ASTM E 230 – ANSI MC 96.1 & IEC EN 60584- 2
E	Ni Cr	Cu Ni	ASTM E 230 – ANSI MC 96.1 & IEC EN 60584 - 2
N	Ni Cr Si	Ni Si	ASTM E 230 – ANSI MC 96.1 & IEC EN 60584 - 2

- Thermocouple wires are normally supplied to meet tolerance above 0 °C. If material is reqd. to meet tolerance below 0 °C, the purchaser should clarify the same in Purchase Order. Special selection of material is reqd.
- Initial calibration & Tolerance suggested, its requirement should be discussed well in advance before placing the order.
- R & S extension wires are also manufactured with copper as positive and different nickel alloys respective for R & S.
- B Type extension wire is manufactured with Copper as positive & negative for transition below 100 °C



EMPOWERING PROCESS MANAGEMENT



TYPE OF CABLE	Wire Size AWG	Type of Wire	Type K	Type J	Type T	Type N	Type E
Individual Core PTFE Insulated, SS Metal Braid & Outside Fused PTFE Jacket	7 * 32	Stranded	Kt-7*32 TTST	Jt-7*32TTST	Tt-7*32TTST	Nt-7*32TTST	Et-7*32TTST
	24	Solid	Kt-24 TTST	Jt-24TTST	Tt-24TTST		
	22	Solid	Kt-22 TT ST	Jt-22TTST			
	20	Solid	Kt-20 TTST	Jt-20TTST			
	18	Solid	Kt-18 TTST	Jt-18TTST			
	16	Solid	Kt-16 TTST	Jt-16TTST			
	14	Solid	Kt-14 TTST	Jt-14TTST			
	12	Solid	Kt-12 TTST	Jt-12TTST			

- TTST– Insulation of Fused PTFE with SS Shield and Inner & Outer jacket of Fused PTFE.
- Duplex construction are suffix with D i.e. KxD \_\_\_\_ Duplex construction are suffix with D i.e. KtD \_\_\_\_
- Extension & Compensating Grade Wire are suffix with e & c respectively

**Initial Calibration Tolerances as per ASTM E230 and ANSI MC96.1**

**Tolerance-Reference Junction 0°C (32 °F)**

Thermocouple Designation	Temperature Range °C ( °F)	Standard Grade Limits ° C ( °F) whichever is greater	Special Grade Limits °C( °F) Whichever is greater
<b>Thermocouple Grade Wires</b>			
Jt	0 (32) to 750 (1382)	±2.2 (4.0) or ±0.75%	±1.1 (2.0) or 0.4%
Kt	0 (32) to 1250 (2282) -200 (-328) to 0 (32)	±2.2 (4.0) or ±0.75% ±2.2 (4.0) or ±2%	±1.1 (2.0) or 0.4% -----
Tt	0 (32) to 350 (662) -200 (-328) to 0 (32)	±1.0 (1.8) or ±0.75% ±1.0 (1.8) or ±1.5%	±0.5 (1.0) or 0.4% -----
Et	0 (32) to 900 (1652) -200 (-328) to 0 (32)	±1.7 (3.0) or ±0.5% ±1.7 (3.0) or ±1%	±1.0 (1.8) or 0.4% -----
Nt	0 (32) to 1300 (2372) -270(-454) to 0 (32)	±2.2 (4.0) or ±0.75% ±2.2 (4.0) or ±2%	±1.1 (2.0) or 0.4% -----
<b>Extension / Compensating Grade Wires</b>			
Jx	0 (32) to 200 (400)	±2.2 (4.0)	
Kx or Kc	0 (32) to 200 (400)	±2.2 (4.0)	
Tx	32 (0) to 100 (212)	±1.0 (1.8)	
Ex	0 (32) to 200 (400)	±1.7 (3.1)	
Nx or Nc	0 (32) to 200 (400)	±2.2 (4.0)	
Rc or Sc or Bc	0 (32) to 200 (400)	±5.0 (9.0)	



**ELTEC CABLES & INSTRUMENTS**

16, Bhaktinagar Station Plot, Rajkot-360 002. INDIA.

Tel. : +91 281 2480400 URL : [www.thermocouplewire.co.in](http://www.thermocouplewire.co.in)

E-mail : [eltecinc@gmail.com](mailto:eltecinc@gmail.com) | [sales@thermocouplewire.co.in](mailto:sales@thermocouplewire.co.in)