

**PTFE INSULATED THERMOCOUPLE WIRE:**



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**. It is flame retardant and none propagating in fire conditions.

APPLICATIONS	PRODUCT FEATURES
<ul style="list-style-type: none"> <li>Manufacturing of Temperature Sensors</li> <li>Aerospace &amp; Cryogenics</li> <li>FDA Approved Products</li> <li>Chemicals &amp; Pharmaceuticals</li> <li>Laboratories</li> <li>Food Processing Plants</li> <li>Packaging</li> </ul>	<ul style="list-style-type: none"> <li>Continuous use up to 260 °C</li> <li>Single exposure up to 400 °C</li> <li>Inert to most chemical &amp; fluids</li> <li>Unaffected by lubricants</li> <li>Flame Retardant</li> <li>Immune to agene fungus &amp; water absorption</li> <li>Resistant to gamma radiation</li> </ul>

**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
Outer Sheath	Fused PTFE tape
SS JACKET	Optional Outside SS Metal braid
Color Coding	Confirms to ANSI MC 96.1 (International Color Code Available)

- 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



**ELTEC CABLES & INSTRUMENTS**

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EMPOWERING PROCESS MANAGEMENT



TYPE OF CABLE	Wire Size AWG	Type of Wire	Type K	Type J	Type T	Type N	Type E
FUSED PTFE TAPE	7 * 32	Stranded	Kt-7*32 TT	Jt-7*32TT	Tt-7*32TT	Nt-7*32TT	Et-7*32TT
	24	Solid	Kt-24 TT	Jt-24TT	Tt-24TT		
	22	Solid	Kt-22 TT	Jt-22TT			
	20	Solid	Kt-20 TT	Jt-20TT			
	18	Solid	Kt-18 TT	Jt-18TT			
	16	Solid	Kt-16 TT	Jt-16TT			
	14	Solid	Kt-14 TT	Jt-14TT			
	12	Solid	Kt-12 TT	Jt-12TT			
FUSED PTFE TAPE with outer SS METAL BRAID	7 * 32	Stranded	Kt-7*32 TTS	Jt-7*36TTS	Tt-7*36TTS	Nt-7*36TTS	Et-7*36TT
	24	Solid	Kt-24 TTS	Jt-24TTS	Tt-24TTS		
	22	Solid	Kt-22 TT S	Jt-22TTS			
	20	Solid	Kt-20 TTS	Jt-20TTS			
	18	Solid	Kt-18 TTS	Jt-18TTS			
	16	Solid	Kt-16 TTS	Jt-16TTS			
	14	Solid	Kt-14 TTS	Jt-14TTS			
	12	Solid	Kt-12 TTS	Jt-12TTS			

- TT – Insulation & Jacket OF FUSED PTFE TAPE.
- TTS – Insulation & Jacket of FUSED PTFE TAPE with Outside SS METAL BRAID
- Duplex construction are suffix with D i.e. KxD \_\_\_\_
- 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)	±2.2 (4.0) or ±0.75%	±1.1 (2.0) or 0.4%
	-200 (-328) to 0 (32)	±2.2 (4.0) or ±2%	-----
Tt	0 (32) to 350 (662)	±1.0 (1.8) or ±0.75%	±0.5 (1.0) or 0.4%
	-200 (-328) to 0 (32)	±1.0 (1.8) or ±1.5%	-----
Et	0 (32) to 900 (1652)	±1.7 (3.0) or ±0.5%	±1.0 (1.8) or 0.4%
	-200 (-328) to 0 (32)	±1.7 (3.0) or ±1%	-----
Nt	0 (32) to 1300 (2372)	±2.2 (4.0) or ±0.75%	±1.1 (2.0) or 0.4%
	-270(-454) to 0 (32)	±2.2 (4.0) or ±2%	-----
<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)	



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