



EMPOWERING PROCESS MANAGEMENT



Polyimide (Kapton) Insulated Thermocouple Wire Max. Temp. Up to 315 °C



Fused Polyimide Tape has a higher die electric strength, retains physical properties against gamma radiation. FEP is used as an adhesive binding agent due to which it can be fused on conductors & finally sheathed

Thermocouple grade wires are used to build the sensing point and can be used to build **THERMOCOUPLE SENSOR** or used in manufacturing of THERMOCOUPLE ASSEMBLIES whereas **Extension & Compensating** wires are commonly used to link the thermocouple to control instrumentation. or can be used to connect to data loggers via thermocouple connectors.

ELTEC Polyimide Insulated Thermocouple Wires conforms to ASTM E230 & MC 96.1 & IEC Tolerance Class **EN 60584 – 2, JIS C 1602**

APPLICATIONS	PRODUCT FEATURES
<ul style="list-style-type: none">• Manufacturing of Temperature Sensors & also used as an extension wire• Aerospace & Cryogenics• Autoclaves• Chemicals & Pharmaceuticals• Laboratories• Food Processing Plants• Packaging	<ul style="list-style-type: none">• Continuous use up to 260 °C• Single exposure up to 400 °C• Inert to most chemical & fluids• Unaffected by lubricants• Flame Retardant• Moisture Resistance• Resistant to gamma radiation

PRODUCT SPECIFICATIONS:

Conductor	Solid or Multi stranded from 12 AWG to 24 AWG , Refer table 1
Core Insulation	Polyimide tape / Fused PTFE TAPE
Construction	Parallel Conductors
No. of Pair	1
Sheath	Fused Polyimide tape
Outer	Optional SS Metal over braid
Color Coding	Confirms to ANSI MC 96.1 (International Color Code Available) & others on request

- Other sizes in SWG and also different construction in other stranded sizes are available on request
- Optional construction of twisted conductors.
- Duplex construction also available
- Optional Color coding: IEC 60584 – 3, BS 1843, DIN 13711, JIS C 1610 – 1981, NFC 42334 as per requirement
- **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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TYPE OF CABLE	Wire Size AWG	Type of Wire	Type K	Type J	Type T	Type N	Type E
Individual Core & Overall Jacket of Fused Polyimide 	7 * 32	Stranded	Kt-7*32 KK	Jt-7*32KK	Tt-7*32KK	Nt-7*32KK	Et-7*32KK
	24	Solid	Kt-24 KK	Jt-24KK	Tt-24KK		
	22	Solid	Kt-22 KK	Jt-22KK			
	20	Solid	Kt-20 KK	Jt-20KK			
	18	Solid	Kt-18 KK	Jt-18KK			
	16	Solid	Kt-16 KK	Jt-16KK			
	14	Solid	Kt-14 KK	Jt-14KK			
	12	Solid	Kt-12 KK	Jt-12KK			
Individual Core & Jacket of Polyimide Tape with Outside SS Metal Over Braid - KKS 	7 * 32	Stranded	Kt-7*32 KKS	Jt-7*36KKS	Tt-7*32KKS	Nt-7*32KKS	Et-7*32KK
	24	Solid	Kt-24 KKS	Jt-24KKS	Tt-24KKS		
	22	Solid	Kt-22 KK S	Jt-22KKS			
	20	Solid	Kt-20 KKS	Jt-20KKS			
	18	Solid	Kt-18 KKS	Jt-18KKS			
	16	Solid	Kt-16 KKS	Jt-16KKS			
	14	Solid	Kt-14 KKS	Jt-14KKS			
	12	Solid	Kt-12 KKS	Jt-12KKS			

- Duplex construction are suffix with D i.e. **KtD** _____
- Thermocouple Original, Extension & Compensating Grade Wire are suffix with t, x & c respectively i.e. **Kt, Kx & Kc**

Initial Calibration Tolerances as per ASTM E230 and ANSI MC96.1 (Table 2)

			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	
Thermocouple Grade Wires				
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%	---	
KK	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%	-----	
Extension / Compensating Grade Wires				
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)		

- 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.

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