

PTFE INSULATED & FIBER GLASS JACKETED THERMOCOUPLE WIRE:



The conductors are insulated with PTFE (fluoro polymer) and then braided with high temperature FIBER GLASS YARN. This cable has special features of both PTFE & FIBER GLASS Insulation i.e. better temperature withstanding capacity, chemical & moisture resistance and better abrasion resistance.

APPLICATIONS	PRODUCT FEATURES
<ul style="list-style-type: none"> • <i>Manufacturing of Temperature Sensors</i> • <i>Furnaces & Ovens</i> • <i>Plastic Processing Equipments</i> • <i>Heat Treatment</i> • <i>Thermocouple Circuits</i> • <i>Various Processing Industries</i> 	<ul style="list-style-type: none"> • <i>Continuous use up to 260 °C</i> • <i>Single exposure up to 650 °C</i> • <i>Good Thermal Durability & Strength</i> • <i>Flame Retardant</i> • <i>Superior Abrasion Resistance</i> • <i>Better flexibility</i>

PRODUCT SPECIFICATIONS:	
Conductor	<i>Solid or stranded thermocouple extension grade wires from 12 AWG to 24 AWG (2.44mm to 0.51mm)</i>
Core Insulation	<i>Fused PTFE TAPE</i>
Construction	<i>Parallel Conductors</i>
No. of Pair	<i>1</i>
Outer Sheath	<i>Braided Fiber Glass with high temperature impregnation *</i>
SS JACKET	<i>Outside SS Metal braided</i>
Color Coding	<i>Confirms to ANSI MC 96.1 (International Color Codes available)</i>

- *Impregnation maintained up to 200 °C. Option for supply of wire without impregnation for continuous operation at elevated temperature.*
- *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
<i>J</i>	<i>Fe</i>	<i>Cu Ni</i>	<i>ASTM E 230 – ANSI MC 96.1 & IEC EN 60584 - 2</i>
<i>K</i>	<i>Ni Cr</i>	<i>Ni Al</i>	<i>ASTM E 230 – ANSI MC 96.1 & IEC EN 60584-2</i>
<i>T</i>	<i>Cu</i>	<i>Cu Ni</i>	<i>ASTM E 230 – ANSI MC 96.1 & IEC EN 60584- 2</i>
<i>E</i>	<i>Ni Cr</i>	<i>Cu Ni</i>	<i>ASTM E 230 – ANSI MC 96.1 & IEC EN 60584 - 2</i>
<i>N</i>	<i>Ni Cr Si</i>	<i>Ni Si</i>	<i>ASTM E 230 – ANSI MC 96.1 & IEC EN 60584 - 2</i>

- *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
FIBER GLASS BRAID	7 * 32	Stranded	Kt-7*32 TF	Jt-7*32TF	Tt-7*32TF	Nt-7*32TF	Et-7*32TF
	24	Solid	Kt-24 TF	Jt-24TF	Tt-24TF		
	22	Solid	Kt-22 TF	Jt-22TF			
	20	Solid	Kt-20 TF	Jt-20TF			
	18	Solid	Kt-18 TF	Jt-18TF			
	16	Solid	Kt-16 TF	Jt-16TF			
	14	Solid	Kt-14 TF	Jt-14TF			
	12	Solid	Kt-12 TF	Jt-12TF			
FIBER GLASS BRAID WITH OUTSIDE SS METL SHIELD	7 * 32	Stranded	Kt-32 TFS	Jt-7*32TFS	Tt-7*32TFS	Nt-7*32TFS	Et-7*32TFS
	24	Solid	Kt-24 TFS	Jt-24TFS	Tt-24TFS		
	22	Solid	Kt-22 TF S	Jt-22TFS			
	20	Solid	Kt-20 TFS	Jt-20TFS			
	18	Solid	Kt-18 TFS	Jt-18TFS			
	16	Solid	Kt-16 TFS	Jt-16TFS			
	14	Solid	Kt-14 TFS	Jt-14TFS			
	12	Solid	Kt-12 TFS	Jt-12TFS			

- TF – PTFE INSULATION
- TFS – PTFE INSULATION & JACKET OF FIBER GLASS BRAID with Outside SS METAL BRAID
- Duplex construction are suffix with D i.e. KxD _____
- Extension & Compensating Grade Wire are suffix with t & 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
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%	-----
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%	-----
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)	



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