EMPOWERING PROCESS MANGEMENT

An ISO 9001:2008 Company

PTFE INSULATED SHIELDED 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 non propagating in fire conditions.

APPLICATIONS	PRODUCT FEATURES
• *Manufacturing of Temperature Sensors*	• *Continuous use up to 260 °C*
• *Aerospace & Cryogenics*	• *Single exposure up to 400 °C*
• *Power Generating Plants*	• *Inert to most chemical & fluids*
• *Chemical & Petroleum Plants*	• *Unaffected by lubricants*
• *Laboratories*	• *Flame Retardant*
• *Field Heat Treating*	• *Shielded construction provides noise reduction*
• *Packaging*	• *Resistant to gamma radiation*

PRODUCT SPECIFICTIONS:	
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 clearify 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*

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TYPE OF CABLE	Wire Size AWG	Type of Wire	Type K	Type J	Type T	Type N	Type E
FUSED PTFE TAPE , SS Shield & Outer PTFE TAPE	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 wih 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
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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