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EMPOWERING PROCESS MANAGEMENT

PFA Insulated THERMOCOUOPLE WIRE

***PFA** Insulation is carried out by an extrusion process and has a temperature withstanding capacity up to **260 °C**. It is flame retardant and non propagating in fire conditions. Resistant to moisture, chemical & solvent. Smooth finish and economical construction for high temperature range made it an ideal for various food grade applications.*

APPLICATIONS	PRODUCT FEATURES
• *Manufacturing of Temperature Sensors*	• *Continuous use up to 260 °C*
• *Aerospace & Cryogenics*	• *Smooth External surface finish*
• *FDA Approved Products*	• *Flame Retardant*
• *Chemicals & Pharmaceuticals*	• *Excellent resistant to chemicals*
• *Petrochemical Plants*	• *Excellent electrical properties*
• *Food Processing Plants*	• *Moisture Resistant*
• *Packaging*	• *Greater Flexibility*

PRODUCT SPECIFICTIONS:	
Conductor	*Solid or stranded thermocouple extension wires from 12 AWG to 24 AWG (2.44mm to 0.51mm)*
Core Insulation	*Flame Retardant extruded PFA*
Construction	*Parallel Conductors*
No. of Pair	*1*
Outer Sheath	*Flame Retardant extruded PFA*
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 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
EXTRUED FEP INSULATION & JACKET	7 * 32	Stranded	Kt-7*32 PF	Jx-7*32 PF	Tx-7*32 PF	Nx-7*32 PF	Ex-7*32 PF
	24	Solid	Kt-24 PF	Jx-24F PF	Tx-24 PF		
	22	Solid	Kt-22 PF	Jx-22F PF			
	20	Solid	Kt-20 PF	Jx-20F PF			
	18	Solid	Kt-18 PF	Jx-18 PF			
	16	Solid	Kt-16 PF	Jx-16 PF			
	14	Solid	Kt-14 PF	Jx-14 PF			
	12	Solid	Kt-12 PF	Jx-12 PF			
EXTRUED FEP INSULATION , JACKET & SS METAL BRAID	7 * 32	Stranded	Kt-7*32 PFS	Jx-7*32 PFS	Tx-*32 PFS	Nx-7*32 PFS	Ex-7*32 PFS
	24	Solid	Kt-24 PFS	Jx-24F PFS	Tx-24 PFS		
	22	Solid	Kt-22 PFS	Jx-22 PFS			
	20	Solid	Kt-20 PFS	Jx-20 PFS			
	18	Solid	Kt-18 PFS	Jx-18 PFS			
	16	Solid	Kt-16 PFS	Jx-16 PFS			
	14	Solid	Kt-14 PFS	Jx-14 PFS			
	12	Solid	Kt-12 PFS	Jx-12 PFS			

- *PF– Insulation & Jacket OF PFA.*
- *PFS – Insulation & Jacket of FEP with Outside SS METAL BRAID.*
- *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) -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% -----
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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