

FEP Insulated THERMOCOUPLE WIRE



FEP Insulation is carried out by an extrusion process and has a temperature withstanding capacity up to 200 °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
<ul style="list-style-type: none"> Manufacturing of Temperature Sensors Aerospace & Cryogenics FDA Approved Products Chemicals & Pharmaceuticals Petrochemical Plants Food Processing Plants Packaging 	<ul style="list-style-type: none"> Continuous use up to 200 °C Single exposure up to 400 °C Chemical Resistant Moisture Resistant Flame Retardant Smoother surface finish Good Electrical Properties

PRODUCT SPECIFICATIONS:

Conductor	Solid or stranded thermocouple extension wires from 12 AWG to 24 AWG (2.44mm to 0.51mm)
Core Insulation	Flame Retardant extruded FEP
Construction	Parallel Conductors
No. of Pair	1
Outer Sheath	Flame Retardant extruded FEP
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



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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
EXTRUDED FEP INSULATION & JACKET	7 * 32	Stranded	Kt-7*32 EP	Jx-7*32EP	Tx-7*32EP	Nx-7*32EP	Ex-7*32EP
	24	Solid	Kt-24 EP	Jx-24EP	Tx-24EP		
	22	Solid	Kt-22 EP	Jx-22EP			
	20	Solid	Kt-20 EP	Jx-20EP			
	18	Solid	Kt-18 EP	Jx-18EP			
	16	Solid	Kt-16 EP	Jx-16EP			
	14	Solid	Kt-14 EP	Jx-14EP			
	12	Solid	Kt-12 EP	Jx-12EP			
EXTRUDED FEP INSULATION , JACKET & SS METAL BRAID	7 * 32	Stranded	Kt-7*32EPS	Jx-7*32EPS	Tx-*32EPS	Nx-7*32EPS	Ex-7*32EPS
	24	Solid	Kt-24 EPS	Jx-24FEPS	Tx-24EPS		
	22	Solid	Kt-22 EP S	Jx-22EPS			
	20	Solid	Kt-20 EPS	Jx-20EPS			
	18	Solid	Kt-18EPS	Jx-18EPS			
	16	Solid	Kt-16 EPS	Jx-16EPS			
	14	Solid	Kt-14 EPS	Jx-14EPS			
	12	Solid	Kt-12EPS	Jx-12EPS			

- EP – Insulation & Jacket OF FEP.
- EPS – 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)	±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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