

PVC INSULATED SHIELDED THERMOCOUPLE WIRE:



In an industrial environment of induced voltage and electrical noise, PVC Insulated twisted overall shielded thermocouple pairs is an ideal selection. Twisted pairs & aluminum Mylar shield provides protection against cross talk, static & magnetic noise in thermocouple circuits.

APPALICATIONS	PRODUCT FEATURES
<ul style="list-style-type: none"> • Utilities & Industrial Plants • Construction of New plants • Petrochemicals & Oil Refineries • Testing Rig Set Up • Thermocouple Circuits 	<ul style="list-style-type: none"> • Temp. Range: 105 °C & Rated 300 V • Flame Retardant • Moisture, Chemical & Solvent Resistant • Excellent Die Electric Strength • 100% shield contact for noise reduction

PRODUCT SPECIFICATIONS	
Conductor	Solid or stranded thermocouple extension grade wires from 12 AWG to 22 AWG (2.44mm to 0.63mm) as per ASTM E 230 & ANSI 96.1
Core Insulation	Flame Retardant PVC with nominal thickness of 0.40mm
No. of Pair	1 or more optional
Pair Laying	Shielded Pairs with communication wire are laid suitably and binded with polyester tape
Cable Shield	0.05 mm Aluminum Mylar /polyester tape, 25% overlap
Drain Wire	22 AWG - 7 strands of Annealed Tinned Copper Wire.
Outer Sheath	Flame Retardant PVC
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 Insulation such as HR PVC / LSZH / LSOH
- Optional construction of twisted conductors & shielding
- 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 up to 200 °C
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



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
SHIELDED PVC INSULATED & SHEATHED THERMOCOUPLE WIRE	7 * 32	Stranded	Kt-7*32 PSh	Jt-7*32PSh	Tt-7*32Sh	Nx-7*32PSh	Et-7*32PSh
	24	Solid	Kt-24 PSh	Jt-24PSh	Tt-24PSh		
	22	Solid	Kt-22 PSh	Jt-22PSh			
	20	Solid	Kt-20 PSh	Jt-20PSh			
	18	Solid	Kt-18 PSh	Jt-18PSh			
	16	Solid	Kt-16 PSh	Jt-16PSh			
	14	Solid	Kt-14 PSh	Jt-14PSh			
	12	Solid	Kt-12 PSh	Jt-12PSh			

- PP – INSULATION & JACKET OF PVC
- PSh – INSULATION & JACKET OF PVC with Cable shield of Alu. Mylar and drain wire
- 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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