



# THERMOCOUPLE WIRE

## FEP Insulated 400°F (200°C)

### Applications

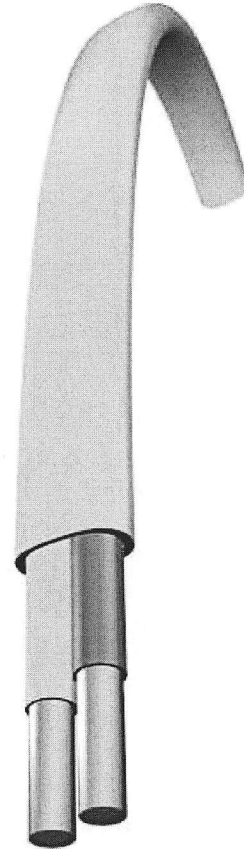
- Temperature Sensors
- Aerospace
- Transportation
- Cryogenics
- Petrochemical Plants
- FDA Approved ...Applications
- Composites

### Available Options

- Metal Overbraids
- Galvanized Half-Oval Armor
- Twisted/Shielded Pair
- Multi-Pair Cables
- Fiberglass Overbraid
- UL Listed Constructions
- ETFE Insulation and Jacket ...Rated to 300F (150C)
- Special Color Codes
- Calibration Test Reports

### Product Features

- Continuous use up ...to 400F (200C)
- Excellent Chemical Resistance
- Excellent Electrical Properties
- Flame Retardant
- Passes IEEE 383 Flame Test
- Passes VW-1 Flame Test



### Product Specifications

Conductors: Solid or stranded thermocouple wire per ASTM E230 & ANSI MC96.1

Insulation: Flame retardant extruded fluoropolymer FEP

Construction: Parallel conductors

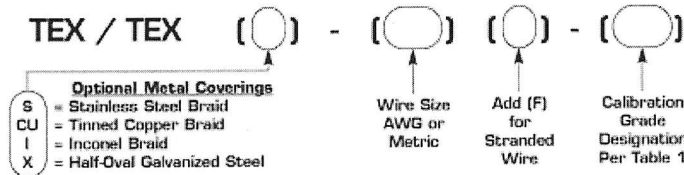
Jacket: Flame retardant extruded fluoropolymer FEP

Operating Temperature: -328F (-200C) to +400F (+200C) continuous

Limits of Error: Conforms to ASTM E230, IEC 584 and ANSI MC 96.1

Color Code: Conforms to ASTM E230 and ANSI MC 96.1 (International Color Codes Available)

### Ordering Code



Conductor Size		Insulation Thickness		Jacket Thickness		Outer Diameter		Net Weight	
AWG	(MM)	inches	(MM)	inches	(MM)	inches	(MM)	LB/MF	(KG/KM)
14	(1.63)	.008	(.20)	.010	(.25)	.104 x .188	(2.6 x 4.8)	34	(51)
16	(1.29)	.008	(.20)	.010	(.25)	.087 x .154	(2.2 x 3.9)	22	(33)
16F*	(1.47)	.008	(.20)	.010	(.25)	.094 x .168	(2.4 x 4.3)	24	(36)
18	(1.02)	.008	(.20)	.010	(.25)	.076 x .132	(1.9 x 3.4)	15	(22)
20	(0.81)	.008	(.20)	.010	(.25)	.068 x .116	(1.7 x 2.9)	11	(16)
20F*	(0.97)	.008	(.20)	.010	(.25)	.072 x .124	(1.8 x 3.1)	12	(18)
22	(0.64)	.008	(.20)	.010	(.25)	.061 x .102	(1.5 x 2.6)	7.6	(11)
24	(0.51)	.008	(.20)	.010	(.25)	.056 x .092	(1.4 x 2.3)	5.7	(8.5)
24F*	(0.61)	.008	(.20)	.010	(.25)	.060 x .100	(1.6 x 2.7)	6.2	(9.2)
26	(0.41)	.008	(.20)	.010	(.25)	.052 x .084	(1.3 x 2.1)	4.4	(6.5)

28	(0.32)	.008	(.20)	.010	(.25)	.049 x .078	(1.2 x 2.0)	3.7	(5.5)
30	(0.25)	.008	(.20)	.010	(.25)	.046 x .072	(1.2 x 1.8)	3.0	(4.5)

**MANY ITEMS AVAILABLE FROM STOCK WITHIN 24 HOURS**

The products referenced above represent the most popular constructions. Other constructions can be manufactured to meet individual specification and application requirements. Contact factory for additional information.

**Table 1**

Initial Calibration Tolerances Per ASTM E230 and ANSI MC96.1

<u>Thermocouple Type</u>	<u>Temperature Range F (C)</u>	<u>Grade Designation</u>	<u>Tolerance-Reference Junction 32F (0C)</u>	
			<u>Standard Grade Limits F (C) whichever is greater</u>	<u>Special Grade Limits F (C) whichever is greater</u>
<u>Thermocouple Wire</u>				
T	32 (0) to 700 (370)	T	±1.8 (1) or ±0.75%	TT ±0.9 (0.5) or 0.4%
J	32 (0) to 1400 (760)	J	±4 (2.2) or ±0.75%	JJ ±2 (1.1) or 0.4%
E	32 (0) to 1600 (870)	E	±3.1 (1.7) or ±0.50%	EE ±1.8 (1) or 0.4%
K or N	32 (0) to 2300 (1260)	K or N	±4 (2.2) or ±0.75%	KK or NN ±2 (1.1) or 0.4%
T*	-328 (-200) to 32 (0)	T	±1.8 (1) or ±1.5%	TT ±0.9 (0.5) or 0.8%**
E*	-328 (-200) to 32 (0)	E	±3.1 (1.7) or ±1%	EE ±1.8 (1) or 0.5%**
K*	-328 (-200) to 32 (0)	K	±4 (2.2) or ±2%	KK **
<u>Extension Wire</u>				
TX	32 (0) to 212 (100)	TX	±1.8 (1)	TTX ±0.9 (0.5)
JX	32 (0) to 400 (200)	JX	±4 (2.2)	JJX ±2 (1.1)
EX	32 (0) to 400 (200)	EX	±3.1 (1.7)	EEX ±1.8 (1)
KX or NX	32 (0) to 400 (200)	KX or NX	±4 (2.2)	KKX or NNX ±2 (1.1)
RX or SX	32 (0) to 400 (200)	RX or SX	±9 (5)	
BX	32 (0) to 212 (100)	BX***	±7.6 (4.2)	
BX	32 (0) to 400 (200)	BX	±6.7 (3.7)	
		ALLOY***		

- \* Thermocouple material is normally supplied to meet tolerances above 0C (32F). If material is required to meet tolerances below 0C (32F), the purchase order must so state. Special selection of material is required.
- \*\* Suggested initial calibration tolerance. Requirements should be discussed between purchaser and supplier.
- \*\*\* Copper vs. copper can be used as an extension for Type B thermocouples if the transition is below 100C (212F). Above 100C (212F), PCLW30-6 alloy should be used as the positive extension wire.



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A Marmon Wire & Cable/Berkshire Hathaway Company