



# Thermocouple wire

## Fibreglass Insulated 704°C

**Applications**

- Heat Treatment
- Component Testing
- Steel and Aluminum Industry
- Metals Production
- Furnace Surveys
- Temperature Sensors

**Available Options**

- Reduced Itch Tuffbond™ Impregnation on Singles
- Stabilized Type K & Type E Conductors
- Fused PTFE Tape Moisture Barrier
- Twisted/Shielded Pair Metal Coverings
- Tighter than Special Limit Accuracy Tolerances
- Special Colour Codes
- Calibration Test Reports

**Product Features**

- Continuous use up to 704°C
- Single Exposure up to 871°C
- Good Moisture, Chemical and Abrasion Resistance
- High Temperature Stability



**Product Specifications**

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

Insulation: Braided fiberglass with high temperature impregnation\*

Construction: Parallel conductors

Jacket: Braided fiberglass with high temperature impregnation\*

Operating Temperature: +704°C continuous; +871°C single exposure

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

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

\*Impregnation maintained to +200°C

### Ordering code:

**TW – Calibration – Wire size – stranded/ – Insulation – Optional - Number**

Grade	(AWG)	solid	type	braid	of pairs
Table 2	Table 1	Add F or E for stranded			

**Ordering code example:**

- TW-K24F-G/GS : K type, 24G, 7 strands 0.2mm, stainless steel braid
- TW-N24F-G/GS : N type, 24F, 7 strands 0.2mm, stainless steel braid

Conductor Size		Insulation Thickness		Jacket Thickness		Outer Diameter		Net Weight	
AWG	(MM)	inches	(MM)	inches	(MM)	inches	(MM)	LB/MF	(KG/
12	(2.06)	.013	(.33)	.013	(.33)	.133 x .240	(3.4 x 6.1)	44	<b>KM</b>
14	(1.63)	.013	(.33)	.013	(.33)	.116 x .206	(2.9 x 5.2)	31	(65)
16	(1.29)	.013	(.33)	.013	(.33)	.103 x .180	(2.6 x 4.6)	22	(46)
16F*	(1.47)	.013	(.33)	.013	(.33)	.110 x .194	(2.8 x 4.9)	23	(33)
18	(1.02)	.013	(.33)	.013	(.33)	.092 x .158	(2.3 x 4.0)	15	(34)
18F*	(1.22)	.013	(.33)	.013	(.33)	.100 x .174	(2.5 x 4.4)	16	(22)
20	(0.81)	.013	(.33)	.013	(.33)	.084 x .142	(2.1 x 3.6)	11	(24)
20F*	(0.97)	.013	(.33)	.013	(.33)	.088 x .150	(2.2 x 3.8)	12	(16)
22	(0.64)	.009	(.23)	.013	(.33)	.069 x .112	(1.8 x 2.8)	7.2	(18)
22F*	(0.76)	.009	(.23)	.013	(.33)	.074 x .122	(1.9 x 3.1)	7.8	(11)
24	(0.51)	.009	(.23)	.013	(.33)	.064 x .102	(1.6 x 2.6)	5.8	(12)
24F*	(0.61)	.009	(.23)	.013	(.33)	.068 x .110	(1.7 x 2.8)	6.2	(8.6)
									(9.2)

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.

#### Initial Calibration Tolerances Per ASTM E230 and ANSI MC96.1

Thermocouple Type	Temperature Range (°C)	Grade Designation	Tolerance-Reference Junction (0°C)		
			Standard Grade Limits (°C) whichever is greater	Grade Designation	Special Grade Limits (°C) whichever is greater
<b>Thermocouple Wire</b>					
T	(0) to (370)	T	± (1) or ±0.75%	TT	± (0.5) or 0.4%
J	(0) to (760)	J	± (2.2) or ±0.75%	JJ	± (1.1) or 0.4%
E	(0) to (870)	E	± (1.7) or ±0.50%	EE	± (1) or 0.4%
K or N	(0) to (1260)	K or N	± (2.2) or ±0.75%	KK or NN	± (1.1) or 0.4%
T*	(-200) to (0)	T	± (1) or ±1.5%	TT	± (0.5) or 0.8%**
E*	(-200) to (0)	E	± (1.7) or ±1%	EE	± (1) or 0.5%**
K*	(-200) to (0)	K	± (2.2) or ±2%	KK	**
<b>Extension Wire</b>					
TX	(0) to (100)	TX	± (1)	TTX	± (0.5)
JX	(0) to (200)	JX	± (2.2)	JJX	± (1.1)
EX	(0) to (200)	EX	± (1.7)	EEX	± (1)
KX or NX	(0) to (200)	KX or NX	± (2.2)	KKX or NNX	± (1.1)
RX or SX	(0) to (200)	RX or SX	± (5)		
BX	(0) to (100)	BX***	± (4.2)		
BX	(0) to (200)	BX	± (3.7)		
		ALLOY***			

- \* Thermocouple material is normally supplied to meet tolerances above 0°C. If material is required to meet tolerances below 0°C, 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 100°C. Above 100°C, PCLW30-6 alloy should be used as the positive extension wire.

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