

WIRE & CABLE

600°F (315°C)

CALIBRATION: ANSI Type J

ORDERING CODE		CONDUCTOR SIZE (AWG)	NOMINAL LOOP RESISTANCE (2)
STANDARD	SPECIAL (1)		
W-K/K-24F-J	W-K/K-24F-JJ	24 STRANDED	0.848
W-K/K-24-J	W-K/K-24-JJ	24 SOLID	0.928
W-K/K-20F-J	W-K/K-20F-JJ	20 STRANDED	0.335
W-K/K-20-J	W-K/K-20-JJ	20 SOLID	0.367
W-K/K-18-J	W-K/K-18-JJ	18 SOLID	0.234



KAPTON® INSULATED TYPE W-K/K (THERMOCOUPLE GRADE)

KAPTON® or Equivalent INSULATION

Heat fused polyimide tape is spiral wrapped over individual conductors and coated with a polyimide varnish color coded to ANSI or IEC standards. Conductors are laid parallel and jacketed using the same process.

PERFORMANCE FEATURES

Excellent abrasion, moisture, and chemical resistance
Continuous use at temperatures up to 600°F (315°C)

APPLICATIONS

Aerospace
Petrochemical Plants
Plastics
Cryogenic Applications

CALIBRATION: ANSI Type K

ORDERING CODE		CONDUCTOR SIZE (AWG)	NOMINAL LOOP RESISTANCE (2)
STANDARD	SPECIAL (1)		
W-K/K-24F-K	W-K/K-24F-KK	24 STRANDED	1.361
W-K/K-24-K	W-K/K-24-KK	24 SOLID	1.490
W-K/K-20F-K	W-K/K-20F-KK	20 STRANDED	0.538
W-K/K-20-K	W-K/K-20-KK	20 SOLID	0.589
W-K/K-18-K	W-K/K-18-KK	18 SOLID	0.376

CALIBRATION: ANSI Type T

ORDERING CODE		CONDUCTOR SIZE (AWG)	NOMINAL LOOP RESISTANCE (2)
STANDARD	SPECIAL (1)		
W-K/K-24F-T	W-K/K-24F-TT	24 STRANDED	0.701
W-K/K-24-T	W-K/K-24-TT	24 SOLID	0.768
W-K/K-20F-T	W-K/K-20F-TT	20 STRANDED	0.277
W-K/K-20-T	W-K/K-20-TT	20 SOLID	0.304
W-K/K-18-T	W-K/K-18-TT	18 SOLID	0.194

CALIBRATION: ANSI Type E

ORDERING CODE		CONDUCTOR SIZE (AWG)	NOMINAL LOOP RESISTANCE (2)
STANDARD	SPECIAL (1)		
W-K/K-24F-E	W-K/K-24F-EE	24 STRANDED	1.639
W-K/K-24-E	W-K/K-24-EE	24 SOLID	1.795
W-K/K-20F-E	W-K/K-20F-EE	20 STRANDED	0.648
W-K/K-20-E	W-K/K-20-EE	20 SOLID	0.709
W-K/K-18-E	W-K/K-18-EE	18 SOLID	0.453

CALIBRATION: ANSI Type N

ORDERING CODE		CONDUCTOR SIZE (AWG)	NOMINAL LOOP RESISTANCE (2)
STANDARD	SPECIAL (1)		
W-K/K-24F-N	W-K/K-24F-NN	24 STRANDED	1.808
W-K/K-24-N	W-K/K-24-NN	24 SOLID	1.980
W-K/K-20F-N	W-K/K-20F-NN	20 STRANDED	0.715
W-K/K-20-N	W-K/K-20-NN	20 SOLID	0.783
W-K/K-18-N	W-K/K-18-NN	18 SOLID	0.500

CALIBRATION: ANSI Type SX/RX

ORDERING CODE		CONDUCTOR SIZE (AWG)	NOMINAL LOOP RESISTANCE (2)
STANDARD	SPECIAL (1)		
W-K/K-24F-SX		24 STRANDED	0.091
W-K/K-24-SX		24 SOLID	0.100
W-K/K-20F-SX		20 STRANDED	0.036
W-K/K-20-SX		20 SOLID	0.040
W-K/K-18-SX		18 SOLID	0.025

CALIBRATION: ANSI Type BX

ORDERING CODE		CONDUCTOR SIZE (AWG)	NOMINAL LOOP RESISTANCE (2)
STANDARD	SPECIAL (1)		
W-K/K-24F-BX		24 STRANDED	0.227
W-K/K-24-BX		24 SOLID	0.248
W-K/K-20F-BX		20 STRANDED	0.090
W-K/K-20-BX		20 SOLID	0.098
W-K/K-18-BX		18 SOLID	0.063

CALIBRATION	COLOR CODE (ANSI)			COLOR CODE (IEC)*		
	POSITIVE	NEGATIVE	OVERALL	POSITIVE	NEGATIVE	OVERALL
TYPE J	WHITE	RED	BROWN	BLACK	WHITE	BLACK
TYPE K	YELLOW	RED	BROWN	GREEN	WHITE	GREEN
TYPE T	BLUE	RED	BROWN	BROWN	WHITE	BROWN
TYPE E	PURPLE	RED	BROWN	PURPLE	WHITE	PURPLE
TYPE N	ORANGE	RED	BROWN	PINK	WHITE	PINK
TYPE SX/RX	BLACK	RED	GREEN	ORANGE	WHITE	ORANGE
BX	GRAY	RED	GRAY	RED	GRAY	GRAY

* Add (-IEC) to the end of the ordering code for IEC color coded insulation and jacketed wire.
Example: W-K/K-20-J-IEC

INITIAL CALIBRATION TOLERANCES Per ANSI MC96.1 and ASTM E230 (°F)					
TEMPERATURE RANGE	STANDARD		SPECIAL		
	CALIBRATION	TOLERANCE	CALIBRATION	TOLERANCE	
32 to 1400°F	TYPE J	±4.0°F or ±.75%*	TYPE JJ	±2.0°F or ±.4%*	
32 to 2300°F	TYPE K	±4.0°F or ±.75%*	TYPE KK	±2.0°F or ±.4%*	
-320 to 32°F	TYPE T**	±1.8°F or ±1.5%**	TYPE TT**	±0.9°F or ±.8%**	
32 to 700°F		±1.8°F or ±.75%*		±0.9°F or ±.4%*	
32 to 1600°F	TYPE E	±3.0°F or ±.50%*	TYPE EE	±1.8°F or ±.5%*	
32 to 2300°F	TYPE N	±4.0°F or ±.75%*	TYPE NN	±2.0°F or ±.4%*	
32 to 400°F	TYPE SX, RX***	±9.0°F			
32 to 212°F	TYPE BX***	±6.7°F			

*Whichever is greater

**Values refer to specially selected cryogenic material. Special limits tolerance is based on limited data, and should only be used as a guide in establishing appropriate working tolerances.

*** Type S and R thermocouples utilize the same extension wire.

**** Copper versus copper can be used as extension wire for type B thermocouples if transition temperature is at or below 212°F for a maximum error of 6.7°F. Above 212°F, PCLW30-6 alloy (or equivalent) should be used as the positive extension wire with copper as the negative extension wire. (Note: PCLW30-6 or equivalent can also be used in the 122°F to 212°F temperature range, which will reduce the error to -0/+4°F.)

CONDUCTOR SIZE (AWG)	INSULATION THICKNESS	JACKET THICKNESS	NOMINAL DIMENSIONS	APPROX. SHIPPING WT. lbs/1000 Ft. (Kg)
24 STRANDED	.005	.005	.044/.078	6 lbs (2.7 Kg)
24 SOLID	.005	.005	.040/.070	5 lbs (2.3 Kg)
20 STRANDED	.005	.005	.058/.106	9 lbs (4.1 Kg)
20 SOLID	.005	.005	.052/.094	8 lbs (3.6 Kg)
18 SOLID	.005	.005	.060/.110	14 lbs (6.4 Kg)

Notes:

- (1) Meets or exceeds Special Initial Calibration Tolerances per ANSI MC96.1-1982 and ASTM E230-1993.
- (2) Nominal resistance in OHMS per double feet at 68°F (20°C).



TEMPERATURE MEASUREMENT DESIGNER'S GUIDE
WWW.THERMO-ELECTRIC-DIRECT.COM

SECTION WIRE KAPTON® (POLYIMIDE) INSULATED WIRE

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