

# THERMOCOUPLE EXTENSION WIRE

## Overall Shield

### UL Listed 300V PVC Insulated 221°F (105°C)

#### APPLICATIONS

- Petrochemical Plants
- Utilities and Industrial Plants
- Thermocouple Circuits
- For use in NEC Article 725 Class 1 Division 2 Hazardous Locations

#### PRODUCT FEATURES

- Complies with NEC 725 for use in Class 2 and Class 3 Circuits
- UL Listed Subject 13 PLTC
- Rated 105C 300 Volt
- Flame Retardant
- Passes IEEE 383 Flame Test
- Passes VW-1 Flame Test
- Sunlight Resistant
- Available as Type ITC
- CPE and TPE Constructions are also available

#### PRODUCT SPECIFICATIONS

**CONDUCTORS:** Solid or stranded thermocouple extension wire per ASTM E230 & ANSI MC96.1  
12 to 22 AWG (2.44 to .63MM)

**INSULATION:** Nominal .016" (.40MM) flame retardant PVC

**COLOR CODE:** Per ASTM E230 & ANSI MC96.1, numbered on positive conductor (other colors available)

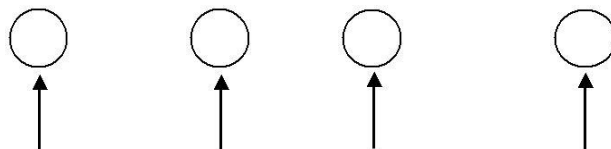
**CONSTRUCTION:** Twisted pairs

**COMMUNICATION WIRE:** 22 AWG (.61MM) 7-strand copper insulated with nominal .015" (.38MM) orange PVC (4 pair and larger)

**CABLE SHIELD:** .002" (.05MM) aluminum/polyester tape, 25% overlap

**CABLE DRAIN WIRE:** 20 AWG (.91MM) 7-strand tinned copper

**OUTER JACKET:** Flame retardant PVC with ripcord under jacket



Wire Size	Outer Jacket										
	Numbers Of Pairs	Thickness		Outer Diameter		Bend Radius		Pull Tension		Net Weight	
		Inches	(MM)	Inches	(MM)	Inches	(MM)	LB	KG	LB/MF	KG/KM
<b>16 AWG (1.29 MM) Solid</b>	1	.037	(0.94)	.256	(6.5)	1.5	(39)	54	(25)	43	(64)
	4	.053	(1.35)	.471	(12.0)	2.8	(72)	172	(78)	135	(201)
	8	.053	(1.35)	.587	(14.9)	3.5	(89)	336	(153)	232	(345)
	12	.064	(1.63)	.708	(18.0)	4.2	(108)	500	(227)	340	(506)
	16	.064	(1.63)	.791	(20.1)	4.7	(121)	664	(302)	431	(642)
	20	.064	(1.63)	.825	(21.0)	5.0	(126)	828	(376)	520	(773)
	24	.074	(1.88)	.953	(24.2)	5.7	(145)	992	(451)	635	(946)
	36	.074	(1.88)	1.077	(27.4)	6.5	(164)	1484	(675)	901	(1341)
<b>18 AWG (1.02 MM) Solid</b>	1	.037	(0.94)	.234	(5.9)	1.4	(36)	34	(15)	34	(51)
	4	.053	(1.35)	.424	(10.8)	2.5	(65)	112	(51)	105	(156)
	8	.053	(1.35)	.525	(13.3)	3.2	(80)	216	(98)	174	(259)
	12	.064	(1.63)	.634	(16.1)	3.8	(97)	320	(145)	255	(379)
	16	.064	(1.63)	.706	(17.9)	4.2	(108)	424	(193)	321	(478)
	20	.064	(1.63)	.734	(18.6)	4.4	(112)	528	(240)	383	(569)
	24	.064	(1.63)	.828	(21.0)	5.0	(126)	632	(287)	453	(674)
	36	.074	(1.88)	.956	(24.3)	5.7	(146)	944	(429)	656	(976)
<b>20 AWG (0.81 MM) Solid</b>	1	.037	(0.94)	.218	(5.5)	1.3	(33)	21	(10)	28	(42)
	4	.042	(1.07)	.369	(9.4)	2.2	(56)	72	(33)	77	(115)
	8	.053	(1.35)	.480	(12.2)	2.9	(73)	136	(62)	136	(202)
	12	.053	(1.35)	.557	(14.1)	3.3	(85)	200	(91)	188	(280)
	16	.064	(1.63)	.643	(16.3)	3.9	(98)	264	(120)	242	(360)
	20	.064	(1.63)	.669	(17.0)	4.0	(102)	328	(149)	292	(434)
	24	.064	(1.63)	.752	(19.1)	4.5	(115)	392	(178)	343	(510)
	36	.064	(1.63)	.848	(21.5)	5.1	(129)	584	(265)	479	(713)

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

Thermocouple Type	Temperature Range F (C)	Grade Designation	Tolerance-Reference Junction 32F (0C)		
			Standard Grade Limits F (C)	Grade Designation	Special Grade Limits F (C)
<b>Extension Wire</b>					
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)
<b>Compensating Extension Wire</b>					
RX or SX	32 (0) to 400 (200)	RX or SX	±9 (5)		

**Electrical Characteristics**

Insulation passes 3000 V ac spark test per UL Subject 13.

Completed cable passes a dielectric test of 2500 V dc for

10 seconds, conductor to conductor and conductor to shield, per UL Subject 13.