

Firewall® III Instrumentation Cable

Multi-Unshielded Pairs
With Overall Shield
(XLPE/CSPE)

90°C*, 600 Volt
Class 1E Nuclear
NEC Type TC
UL Listed

Spec. RSS-3-021

Scope

Firewall® III Instrumentation Cable is a totally thermoset construction specifically designed for applications in power generation plants, substations and other similar locations. It is intended for use in harsh and demanding environments, including Class 1E nuclear applications. It may be installed in trays, ducts, conduits or in direct burial applications to perform a variety of signaling and related functions. *Designed for use on circuits where shielding from external electrostatic interference is required but shielding between pairs is not critical.*

Features

- Thermoset insulation and jacket for enhanced thermal stability
- Specially formulated insulation for superior long term water resistance
- Extremely flame retardant
- Nuclear qualified with a minimum 40-year thermal life expectancy at 90°C
- Radiation resistant (up to 200 megarads)
- Full traceability
- Excellent mechanical properties
- Tin-coated copper conductors for improved terminations and corrosion resistance
- All singles pass a wet dielectric (tank) test prior to cabling to verify electrical integrity
- All jackets have printed sequential footage markers for improved inventory control
- Easy strippability for installation ease

Performance Standards

- Insulation in accordance with ICEA Standard S-66-524 and UL approved for 90°C applications in both wet & dry locations
- Jackets in accordance with ICEA Standard S-19-81 for heavy-duty chlorosulfonated polyethylene (CSPE)
- Class 1E qualified in accordance with IEEE-383 1974 and IEEE-323 (Rockbestos Reports QR-5804 or QR-5805)
- Cable passes IEEE-383 1974 70,000 BTU/hr vertical tray flame test as modified by NRC Reg. Guide 1.131
- Cable passes ICEA 210,000 BTU/hr vertical tray flame test (Standard T-29-520)
- Single conductors pass the vertical flame tests specified in IEEE-383 1974 para. 2.5.6 (ICEA S-19-81 Section 6.19.6) and UL VW-1
- Quality Assurance program in accordance with 10 CFR 50 Appendix B
- UL Listed Type TC for cable tray installations (UL 1277)
- In accordance with the National Electrical Code (approved for Class 1, Division 2 hazardous locations)

Construction

Conductor:

Annealed, tin-coated copper, Class "B" strand (ASTM B-8 & B-33)

Insulation:

Proprietary heat, moisture and radiation resistant flame retardant crosslinked polyethylene

Pair Assembly:

Two insulated conductors twisted

Cabling:

Required number of pairs cabled together

Circuit Identification:

One black and one white insulated single conductor in each pair with printed pair numbers on both singles for pair identification (alternate methods also available)

Fillers:

(When required)

Shield System:

Helically applied aluminum/polyester laminated tape shield in continuous contact with a flexible strand, tin-coated copper drain wire

Binder Tape:

Helically applied

Jacket:

Black, heavy-duty chlorosulfonated polyethylene (also available in neoprene and FR-XLPE)

* Rated 90°C for normal operation in wet and dry locations, 130°C for emergency overload conditions, and 250°C for short circuit conditions.

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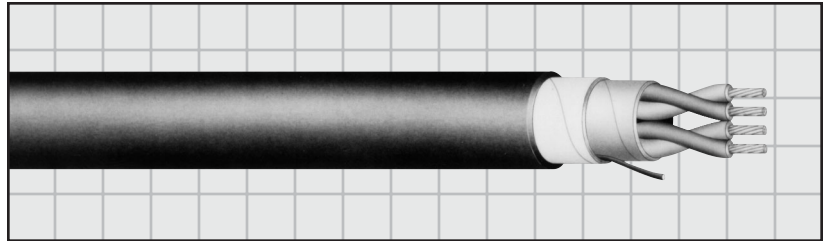
(XLPE/CSPE)

90°C*, 600 Volt

Class 1E Nuclear

NEC Type TC UL Listed

Spec. RSS-3-021



16 AWG, 7 Strand

Product Code	Number of Pairs	Insulation Thickness		Insulated Conductor Diameter (Inch)	Drain Wire Size/ Stranding	Jacket Thickness (Mils)	Nominal Overall Diameter		Approximate Net Weight (Lbs/M')
		(Inch)	(mm)				(Inch)	(mm)	
I46-0041	2	.025	.64	.11	18 AWG (16/s)	45	.47	11.94	135
I46-3462	3	.025	.64	.11	18 AWG (16/s)	45	.50	12.70	165
I46-3463	4	.025	.64	.11	18 AWG (16/s)	60	.60	15.24	240
I46-3465	5	.025	.64	.11	18 AWG (16/s)	60	.65	16.51	285
I46-3466	7	.025	.64	.11	18 AWG (16/s)	60	.71	18.03	310
I46-3468	9	.025	.64	.11	18 AWG (16/s)	60	.82	20.83	390
I46-3470	12	.025	.64	.11	18 AWG (16/s)	80	.96	24.38	535
I46-3471	15	.025	.64	.11	18 AWG (16/s)	80	1.06	26.92	620
I46-3472	19	.025	.64	.11	18 AWG (16/s)	80	1.12	28.45	720
I46-5982	37	.025	.64	.11	18 AWG (16/s)	80	1.48	37.59	1270

18 AWG, 7 Strand

I57-0022	2	.025	.64	.10	20 AWG (10/s)	45	.43	10.92	110
I57-0032	3	.025	.64	.10	20 AWG (10/s)	45	.46	11.68	130
I57-0042	4	.025	.64	.10	20 AWG (10/s)	45	.52	13.21	170
I57-0052	5	.025	.64	.10	20 AWG (10/s)	60	.59	14.99	220
I57-0072	7	.025	.64	.10	20 AWG (10/s)	60	.64	16.26	240
I57-0092	9	.025	.64	.10	20 AWG (10/s)	60	.75	19.05	300
I57-0122	12	.025	.64	.10	20 AWG (10/s)	60	.83	21.08	375
I57-0152	15	.025	.64	.10	20 AWG (10/s)	80	.96	24.38	475
I57-0192	19	.025	.64	.10	20 AWG (10/s)	80	1.01	25.65	545
I57-0372	37	.025	.64	.10	20 AWG (10/s)	80	1.34	34.04	945

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