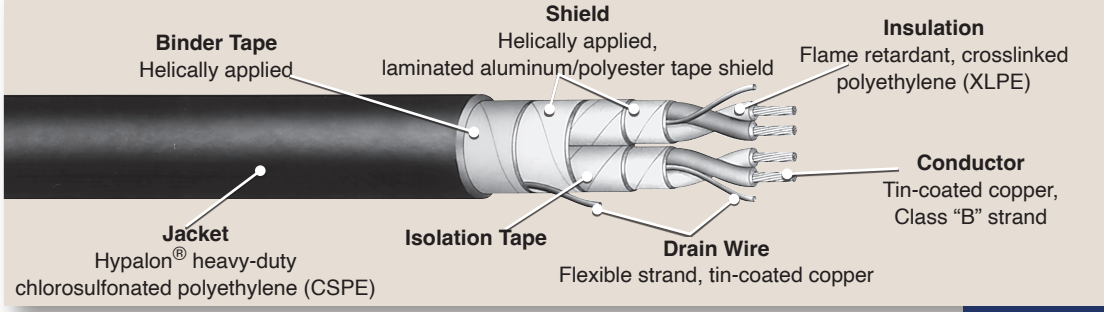
Firewall® III
Instrumentation Cable

FIREWALL®

Multi-Shielded Pairs With Overall Shield XLPE/HD-CSPE (Hypalon®)



90°C*, 600 Volt
Class 1E Nuclear
NEC Type TC
UL Listed
Spec. RSS-3-021

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
- Shield to shield isolation system provided and verified by electrical testing

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 critical circuits where complete isolation is required between pairs and from external interference.*

Performance Standards

- Insulation in accordance with ICEA S-66-524 and UL approved for 90°C applications in both wet & dry locations
- Jackets in accordance with ICEA S-19-81 for Hypalon® heavy-duty chlorosulfonated polyethylene (CSPE)
- Class 1E qualified in accordance with IEEE 383-1974 and IEEE 323-1974 (RSCC 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 T-29-520 210,000 BTU/hr vertical tray flame test
- 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 B8 & B33)

Insulation: Proprietary heat, moisture and radiation resistant flame retardant crosslinked polyethylene

Pair Assembly: Two insulated conductors twisted with a flexible strand tin-coated copper drain wire, a helically applied aluminum/ polyester laminated tape shield, and an isolation tape

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: As applicable

Overall 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: Hypalon® black, heavy-duty chlorosulfonated polyethylene (HD-CSPE)

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

Marmon Industrial Energy & Infrastructure

Made in the USA

Marmon Electrical
A Berkshire Hathaway Company

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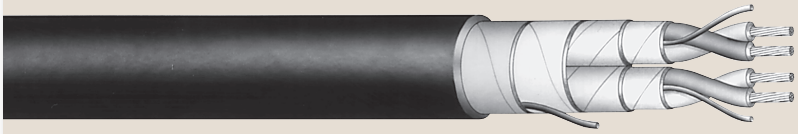

90°C*, 600 Volt
Class 1E Nuclear
NEC Type TC
UL Listed
Spec. RSS-3-021

16 AWG, 7 Strand

Product Code	Number of Pairs	Insulation Thickness (inch)	Insulation Thickness (mm)	Insulated Conductor Diameter (inch)	Drain Wire Size/ Stranding	Jacket Thickness (Mils)	Nominal Overall Diameter (inch)	Nominal Overall Diameter (mm)	Approximate Net Weight (Lbs/M')
I46-5700	2	.025	.64	.11	18 AWG (16/s)	45	.51	12.95	165
I46-5701	3	.025	.64	.11	18 AWG (16/s)	60	.57	14.48	220
I46-5844	4	.025	.64	.11	18 AWG (16/s)	60	.65	17.53	285
I46-5985	5	.025	.64	.11	18 AWG (16/s)	60	.71	18.03	340
I46-5702	7	.025	.64	.11	18 AWG (16/s)	60	.77	19.56	375
I46-5988	9	.025	.64	.11	18 AWG (16/s)	80	.94	23.88	515
I46-5703	12	.025	.64	.11	18 AWG (16/s)	80	1.05	26.67	650
I46-5989	15	.025	.64	.11	18 AWG (16/s)	80	1.16	29.46	755
I46-5990	19	.025	.64	.11	18 AWG (16/s)	80	1.22	30.99	880
I46-5992	37	.025	.64	.11	18 AWG (16/s)	80	1.63	41.40	1570

18 AWG, 7 Strand

Product Code	Number of Pairs	Insulation Thickness (inch)	Insulation Thickness (mm)	Insulated Conductor Diameter (inch)	Drain Wire Size/ Stranding	Jacket Thickness (Mils)	Nominal Overall Diameter (inch)	Nominal Overall Diameter (mm)	Approximate Net Weight (Lbs/M')
I57-0024	2	.025	.64	.10	20 AWG (10/s)	45	.47	11.94	130
I57-0034	3	.025	.64	.10	20 AWG (10/s)	45	.50	12.70	160
I57-0044	4	.025	.64	.10	20 AWG (10/s)	60	.60	15.24	225
I57-0054	5	.025	.64	.10	20 AWG (10/s)	60	.65	16.51	265
I57-0074	7	.025	.64	.10	20 AWG (10/s)	60	.70	17.78	290
I57-0094	9	.025	.64	.10	20 AWG (10/s)	60	.81	20.57	360
I57-0124	12	.025	.64	.10	20 AWG (10/s)	80	.95	24.13	500
I57-0154	15	.025	.64	.10	20 AWG (10/s)	80	1.05	26.67	575
I57-0194	19	.025	.64	.10	20 AWG (10/s)	80	1.11	28.19	665
I57-0374	37	.025	.64	.10	20 AWG (10/s)	80	1.47	37.34	1170

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