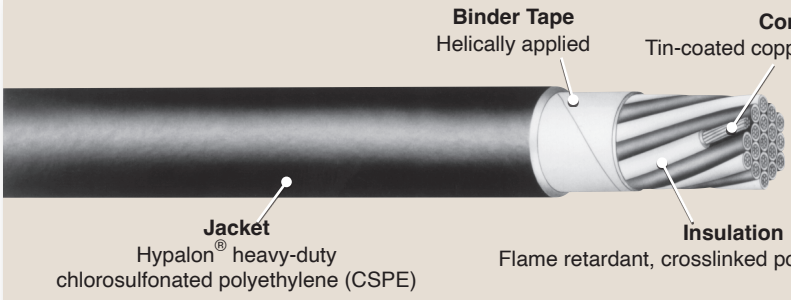
Firewall® III
Instrumentation Cable
Multi-Conductor Unshielded XLPE/HD-CSPE (Hypalon®)

RSCC Nuclear Cable



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

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 not required.

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
Circuit Identification: Colored insulation per ICEA Method 1, Table K-1
Fillers: As applicable
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.

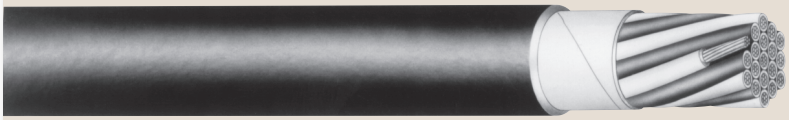
Marmon Industrial Energy & Infrastructure

Made in the USA

Marmon Electrical
A Berkshire Hathaway Company

Firewall® III
Instrumentation Cable
Multi-Conductor Unshielded XLPE/HD-CSPE (Hypalon®)

RSCC Nuclear Cable



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

16 AWG, 7 Strand

Product Code	Number of Conductors	Insulation Thickness (inch)	Insulation Thickness (mm)	Insulated Conductor Diameter (inch)	Overall Jacket Thickness (Mils)	Nominal Overall Diameter (inch)	Nominal Overall Diameter (mm)	Approximate Net Weight (Lbs/M')
I46-0020	2	.025	.64	.11	45	.31	7.87	65
I46-0030	3	.025	.64	.11	45	.33	8.38	80
I46-0040	4	.025	.64	.11	45	.36	9.14	95
I46-0050	5	.025	.64	.11	45	.39	9.91	115
I46-0070	7	.025	.64	.11	45	.42	10.67	130
I46-0090	9	.025	.64	.11	45	.49	12.45	160
I46-0120	12	.025	.64	.11	60	.58	14.73	225
I46-3023	15	.025	.64	.11	60	.64	16.26	270
I46-0190	19	.025	.64	.11	60	.67	17.02	320
I46-0270	27	.025	.64	.11	60	.79	20.07	435
I46-0370	37	.025	.64	.11	80	.93	23.62	610

18 AWG, 7 Strand

Product Code	Number of Conductors	Insulation Thickness (inch)	Insulation Thickness (mm)	Insulated Conductor Diameter (inch)	Overall Jacket Thickness (Mils)	Nominal Overall Diameter (inch)	Nominal Overall Diameter (mm)	Approximate Net Weight (Lbs/M')
I57-0020	2	.025	.64	.10	45	.29	7.37	50
I57-0030	3	.025	.64	.10	45	.31	7.87	60
I57-0040	4	.025	.64	.10	45	.33	8.38	75
I57-0050	5	.025	.64	.10	45	.36	9.14	90
I57-0070	7	.025	.64	.10	45	.38	9.65	100
I57-0090	9	.025	.64	.10	45	.44	11.18	120
I57-0120	12	.025	.64	.10	45	.50	12.70	155
I57-0150	15	.025	.64	.10	60	.58	14.73	205
I57-0190	19	.025	.64	.10	60	.61	15.49	240
I57-0270	27	.025	.64	.10	60	.72	18.29	325
I57-0370	37	.025	.64	.10	60	.80	20.32	425

* 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