

Firewall® SR

Thermocouple Extension Cable

Single Pair Shielded

(Silicone Rubber)
125°C, 600 Volt
Class 1E Nuclear

Spec. RSS-9-008

Scope

Firewall® SR Thermocouple Extension Cable is a silicone rubber insulated construction specifically designed for high temperature applications within nuclear generating facilities. It is intended for use in harsh and demanding environments where temperature extremes preclude the use of standard cables. It may be installed in trays, ducts, conduits or in confined spaces such as equipment housings. *Designed for use on circuits where shielding from external electrostatic interference is not required.*

Construction

Conductor:

Solid alloys per ANSI MC 96.1 (Extension Grade, standard limits of error)

Insulation:

Proprietary heat, moisture and radiation resistant silicone rubber

Covering:

Glass braid with high temperature finish

Pair Assembly:

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

Circuit Identification:

Individual single conductors color coded to ANSI requirements by means of colored braids

Fillers:

(Where required)

Binder Tape:

Helically applied polyester

Overall Covering:

Rockhide® braid* with high temperature finish (colors to ANSI standards by type)

* Rockhide® is a proprietary blend of aramid and other high temperature synthetic fibers.

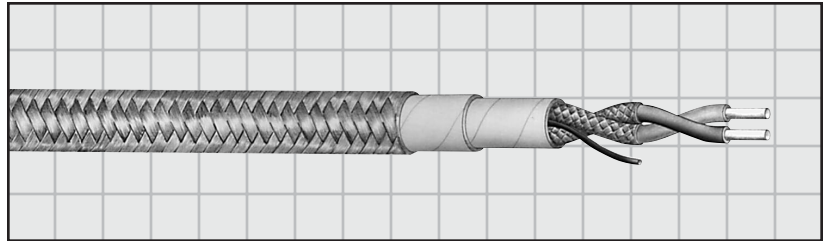
Features

- Nuclear qualified with a minimum 40-year thermal life expectancy at 125°C
- Radiation resistant (up to 200 megarads)
- Flame retardant
- Extremely flexible for installation ease
- Excellent circuit integrity during flame conditions
- Full traceability
- Tin-coated copper conductors for improved terminations, corrosion resistance and temperature endurance
- Easy strippability for installation ease
- Tin-coated copper conductors for improved terminations, corrosion resistance and temperature endurance
- All singles pass a wet dielectric (tank) test prior to braid covering to verify electrical integrity
- All cables have printed sequential footage markers for improved inventory control

Performance Standards

- Silicone rubber insulation in accordance with ICEA Standard S-19-81
- Class 1E qualified in accordance with IEEE-383 1974 and IEEE-323 (Rockbestos Report QR-8802)
- Cable passes IEEE-383 1974 70,000 BTU/hr vertical tray flame test as modified by NRC Reg. Guide 1.131
- ANSI standard MC 96.1
- Cable passes ICEA 210,000 BTU/hr vertical tray flame test (Standard T-29-520)
- Single conductors pass the vertical flame test specified in IEEE-383 1974 para. 2.5.6 (ICEA S-19-81 Section 6.19.6)
- Quality Assurance program in accordance with 10 CFR 50 Appendix B

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Single Shielded Pair - 16 AWG Solid

| Product Code | Conductor Type | Insulation Thickness (Inch) | Insulation Thickness (mm) | Individual Braid Thickness (Mils) | Single Conductor Diameter (Inch) | Drain Wire Size/Stranding | Overall Braid Thickness (Mils) | Nominal Overall Diameter (Inch) | Nominal Overall Diameter (mm) | Approximate Net Weight (Lbs/M') |
|--------------|----------------|-----------------------------|---------------------------|-----------------------------------|----------------------------------|---------------------------|--------------------------------|---------------------------------|-------------------------------|---------------------------------|
| I68-3143 | JX | .030 | .76 | 7.5 | .13 | 18 AWG (16/s) | 40 | .35 | 8.89 | 50 |
| I68-3144 | EX | .030 | .76 | 7.5 | .13 | 18 AWG (16/s) | 40 | .35 | 8.89 | 50 |
| I68-3145 | KX | .030 | .76 | 7.5 | .13 | 18 AWG (16/s) | 40 | .35 | 8.89 | 50 |
| I68-3146 | TX | .030 | .76 | 7.5 | .13 | 18 AWG (16/s) | 40 | .35 | 8.89 | 50 |

Single Shielded Pair - 18 AWG Solid

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|----------|----|------|-----|-----|-----|---------------|----|-----|------|----|
| I68-3139 | JX | .030 | .76 | 7.5 | .12 | 20 AWG (10/s) | 40 | .33 | 8.38 | 40 |
| I68-3140 | EX | .030 | .76 | 7.5 | .12 | 20 AWG (10/s) | 40 | .33 | 8.38 | 40 |
| I68-3141 | KX | .030 | .76 | 7.5 | .12 | 20 AWG (10/s) | 40 | .33 | 8.38 | 40 |
| I68-3142 | TX | .030 | .76 | 7.5 | .12 | 20 AWG (10/s) | 40 | .33 | 8.38 | 40 |