

Firewall® SR

Control Cable

(Silicone Rubber)

125°C, 600 Volt
Class 1E Nuclear

Spec. RSS-9-008

Scope

Firewall® SR control 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 demand-

ing 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.

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
- Easy strippability for termination 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
- Quality assurance program in accordance with 10 CFR 50 Appendix B
- 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)

Construction

Conductor:

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

Insulation:

Proprietary heat, moisture and radiation resistant silicone rubber

Covering:

Glass braid with high temperature finish

Circuit Identification:

Up to 6/C, colored braids per ICEA Method 5, Table K-5. Over 6/C, printed number and name of color per ICEA Method 3, K-5 sequence.

Fillers:

(Where required)

Binder Tape:

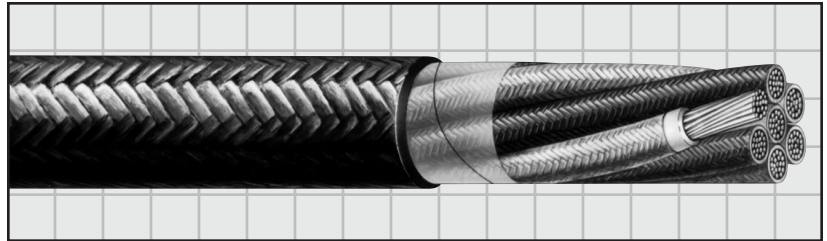
Helically applied polyester

Overall Covering:

Rockhide® braid* with high temperature finish

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

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14 AWG, 7 Strand

| Product Code | Number of Conductors | Insulation Thickness (Inch) | Insulation Thickness (mm) | Individual Braid Thickness (Mils) | Single Conductor Diameter (Inch) | Overall Braid Thickness (Mils) | Nominal Overall Diameter (Inch) | Nominal Overall Diameter (mm) | Approximate Net Weight (Lbs/M') |
|--------------|----------------------|-----------------------------|---------------------------|-----------------------------------|----------------------------------|--------------------------------|---------------------------------|-------------------------------|---------------------------------|
| C64-0020 | 2 | .045 | 1.14 | 7 | .19 | 40 | .46 | 11.68 | 90 |
| C64-0030 | 3 | .045 | 1.14 | 7 | .19 | 40 | .49 | 12.45 | 110 |
| C64-0040 | 4 | .045 | 1.14 | 7 | .19 | 40 | .54 | 13.72 | 150 |
| C64-0050 | 5 | .045 | 1.14 | 7 | .19 | 40 | .59 | 14.99 | 180 |
| C64-0070 | 7 | .045 | 1.14 | 7 | .19 | 40 | .64 | 16.26 | 220 |
| C64-0090 | 9 | .045 | 1.14 | 7 | .19 | 40 | .76 | 19.30 | 295 |
| C64-0120 | 12 | .045 | 1.14 | 7 | .19 | 40 | .86 | 21.84 | 365 |
| C64-0190 | 19 | .045 | 1.14 | 7 | .19 | 40 | 1.01 | 25.65 | 585 |
| C64-0250 | 25 | .045 | 1.14 | 7 | .19 | 40 | 1.19 | 30.23 | 815 |
| C64-0370 | 37 | .045 | 1.14 | 7 | .19 | 40 | 1.39 | 35.31 | 1115 |

12 AWG, 7 Strand

| | | | | | | | | | |
|----------|----|------|------|---|-----|----|------|-------|------|
| C64-1020 | 2 | .045 | 1.14 | 7 | .21 | 40 | .51 | 12.95 | 120 |
| C64-1030 | 3 | .045 | 1.14 | 7 | .21 | 40 | .55 | 13.97 | 150 |
| C64-1040 | 4 | .045 | 1.14 | 7 | .21 | 40 | .61 | 15.49 | 215 |
| C64-1050 | 5 | .045 | 1.14 | 7 | .21 | 40 | .67 | 17.02 | 265 |
| C64-1070 | 7 | .045 | 1.14 | 7 | .21 | 40 | .73 | 18.54 | 335 |
| C64-1090 | 9 | .045 | 1.14 | 7 | .21 | 40 | .86 | 21.84 | 425 |
| C64-1120 | 12 | .045 | 1.14 | 7 | .21 | 40 | .98 | 24.89 | 515 |
| C64-1190 | 19 | .045 | 1.14 | 7 | .21 | 40 | 1.16 | 29.46 | 770 |
| C64-1250 | 25 | .045 | 1.14 | 7 | .21 | 40 | 1.36 | 34.54 | 1100 |
| C64-1370 | 37 | .045 | 1.14 | 7 | .21 | 40 | 1.58 | 40.13 | 1450 |

10 AWG, 7 Strand

| | | | | | | | | | |
|----------|----|------|------|---|-----|----|------|-------|------|
| C64-2020 | 2 | .045 | 1.14 | 7 | .23 | 40 | .54 | 13.72 | 140 |
| C64-2030 | 3 | .045 | 1.14 | 7 | .23 | 40 | .58 | 14.73 | 200 |
| C64-2040 | 4 | .045 | 1.14 | 7 | .23 | 40 | .65 | 16.51 | 260 |
| C64-2050 | 5 | .045 | 1.14 | 7 | .23 | 40 | .70 | 17.78 | 370 |
| C64-2070 | 7 | .045 | 1.14 | 7 | .23 | 40 | .79 | 20.07 | 400 |
| C64-2090 | 9 | .045 | 1.14 | 7 | .23 | 40 | .91 | 23.11 | 570 |
| C64-2120 | 12 | .045 | 1.14 | 7 | .23 | 40 | 1.03 | 26.16 | 690 |
| C64-2190 | 19 | .045 | 1.14 | 7 | .23 | 40 | 1.22 | 30.99 | 1090 |
| C64-2250 | 25 | .045 | 1.14 | 7 | .23 | 40 | 1.43 | 36.32 | 1490 |
| C64-2370 | 37 | .045 | 1.14 | 7 | .23 | 40 | 1.67 | 42.42 | 2065 |