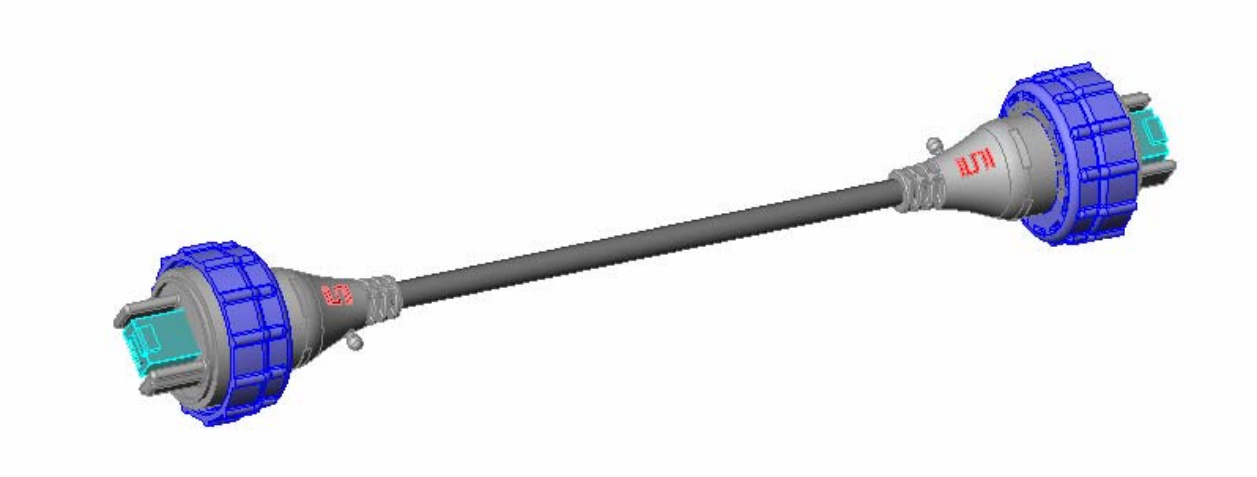
Series: SCPE-G-2.00-D Mates with SCRE
SEALED CIRCULAR ETHERNET CABLE ASSEMBLY



SCPE-G-2.00-D Mated with SCRE-01

1.0 SCOPE

1.1 «Scope» intended to provide electrical, mechanical, environmental and also process data to assist in the proper use and application of the SCPE, Sealed Circular Ethernet Cable series.

2.0 ELECTRICAL

2.1 Dielectric Withstanding Voltage, DWV, per EIA-364-20
2.1.1 1050 VAC Maximum

2.2 Insulation Resistance, IR, per EIA-364-21
2.2.1 100,000 MΩ

2.3 Low Level Contact Resistance, LLCR, USB-A/USB-B, per EIA-364--23
2.3.1 81.1 mΩ Max.

2.4 Current Carrying Capacity for a 30°C temp rise, CCC, per EIA-364-70
2.4.1 1.0 A per contact with 8 adjacent contacts powered @ 20% de-rating

3.0 MATERIALS

3.1 Insulator Material
3.1.1 Polycarbonate

3.2 Contact
3.2.1 Phos Bronze

4.0 MECHANICAL

4.1 Operational Temperature
4.1.1 – 20°C to +70°C

4.2 Mating/Unmating forces after 100 cycles, per EIA-364-13

4.2.1 7.1 Pounds Maximum Mating Force
4.2.2 2.5 Pounds Minimum Unmating Force

4.3 Durability after 1000 cycles, per EIA-364-23
4.3.1 Δ LLCR: 3.1 mΩ Max.

4.4 Normal Force, per EIA-364-04
4.4.1 283.2 grams minimum @ 0.050" deflection

5.0 ENVIRONMENTAL

5.1 Thermal Aging, per EIA-364-17
5.1.1 Post Thermal Aging Inspection: No Damage
5.1.2 Post Thermal Δ Low Level Contact Resistance: 9.7 mΩ Max.
5.1.3 Post Thermal Dielectric Withstanding Voltage, Mated: 975 VAC
5.1.4 Post Thermal Insulation Resistance: 100,000 MΩ
5.1.5 Test Conditions
5.1.5.1 Test condition 4 at 105°C
5.1.5.2 Test time condition B for 250 hours.

5.2 Cyclic Humidity, per EIA-364-31
5.2.1 Post Humidity Inspection: No Damage
5.2.2 Post Humidity Δ Low Level Contact Resistance: 7.9 mΩ Max.
5.2.3 Post Humidity Dielectric Withstanding Voltage: 825 VAC
5.2.4 Post Humidity Insulation Resistance: 100,000 MΩ
5.2.5 Test Conditions
5.2.5.1 Test Temperature: +25°C to +65°C
5.2.5.2 Relative Humidity: 90 to 95%
5.2.5.3 Test Duration: 10 Days

5.3 Gas Tight, per EIA-364-36
5.3.1 Post Gas Tight Δ Low Level Contact Resistance: 11.5 mΩ Max.
5.3.2 Test Conditions
5.3.2.1 Gas Exposure: Nitric Acid Vapor
5.3.2.2 Exposure Duration: 60 Minutes +/- 5 Minutes
5.3.2.3 Drying Temperature: 50°C +/- 3°C
5.3.2.4 Measurements: Within one hour of exposure

5.4 Dust Exposure, USB-B, per CEI/IEC 60529 IP67, Paragraph 13.4
5.4.1 Post Dust Inspection: No Damage
5.4.2 Post Dust Δ Low Level Contact Resistance: 1.6 mΩ Max.
5.4.3 Post Dust Dielectric Withstanding Voltage: >1125 VAC
5.4.4 Post Dust Insulation Resistance: >50,000 MΩ
5.4.5 Test Conditions
5.4.5.1 Size of Chamber: 2.48 ft^3
5.4.5.2 Amount of Dust: 22 grams
5.4.5.3 Exposure Time: 2.0 hours under vacuum
5.4.5.4 Dust Type: Talcum Powder

5.5 Water Exposure, USB-B mated w/ SCRU-02, per CEI/IEC 60529, Paragraph 14.2.7
5.5.1 Post Water Inspection: No Damage

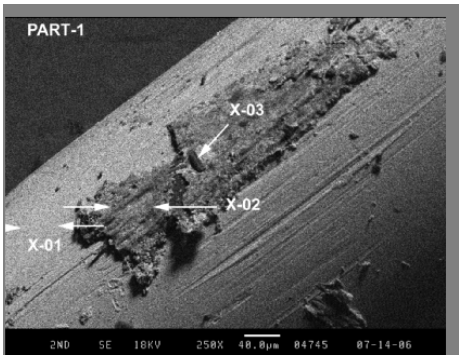
5.5.2 Post Water Δ Low Level Contact Resistance: 5.6 mΩ Max.
5.5.3 Post Water Dielectric Withstanding Voltage: >1125 VAC
5.5.4 Post Water Insulation Resistance: >50,000 MΩ
5.5.5 Test Conditions
5.5.5.1 Depth in Water: >0.15 meter, <1 meter
5.5.5.2 Type of Water: DI
5.5.5.3 Time of Exposure: 30 minutes

5.6 Mechanical Shock, per EIA-364-27
5.6.1 Post Mechanical Shock Inspection: No Damage
5.6.2 Post Mechanical Shock Δ Low Level Contact Resistance: 1.5 mΩ Max.
5.6.3 Test Conditions
5.6.3.1 Peak Value: 100 G
5.6.3.2 Duration: 6 mSec.
5.6.3.3 Waveform: Half Sine
5.6.3.4 # Shocks/Direction: 3 Shocks/3 Axes (18 Total)

5.7 Random Vibration, per EIA-364-28
5.7.1 Post Vibration Examination: No Damage
5.7.2 Post Vibration Δ Low Level Contact Resistance: 2.3 mΩ Max.
5.7.3 Test Conditions
5.7.3.1 Test Condition: Test Condition V, Letter "B"
5.7.3.2 Frequency: 50 to 2000 Hz
5.7.3.3 PSD: 0.04 g^2/Hz.
5.7.3.4 Duration: 2 Hours/Axis, 3 Axes Total
5.7.3.5 g's: 7.56 g rms

KNOWN ISSUE: The contact cavity should be kept clean of fibrous and particulate contamination. Particles and fibers could lodge in the interface and result in elevated contact resistance.

NOTE: Three contact positions were excluded from the Humidity due to fibrous contamination in the interface.



Scanning Electron Micrograph of Fibrous Contamination