D. C. Ekwue 851KC
G. D. Grimm 1733SA

WIRE, ELECTRICAL, SILVER_COATED, FEP INSULATED, HIGH VOLTAGE (U)

Reference Drawing Callout: Wire, Electrical per 8220962-8220962 (1).

(1) Insert Control Number Suffix.

CHANGE HISTORY

CONTROL NUMBER	ISSUE	RELEASE/CHANGE NO.	DATE
8220962-8220964-00	A	IER 20151237KC	09/15

1. GENERAL.

1.1. Scope. This specification covers silver-coated soft or annealed stranded copper conductor etched, fluorinated ethylene propylene (FEP) insulated hookup wire suitable for operation between -65 Deg. and 200 Deg. C at a maximum voltage of 12 KVDC @ E-6 atmosphere for 30 seconds. The requirements of this standard are manufactured to those of SAE-AS27559.

1.2. Deleted.

2. DOCUMENTS.

2.1. Required. The following document forms a part of this specification to the extent stated herein.

SAE-AS22759	Wire, Electric, Fluoropolymer-Insulation Copper or Copper Alloy
Fed-STD 228	Test Methods For Cable and Wire, Insulated

3. REQUIREMENTS.

The material shall meet all of the applicable requirements, of this standard, including any inspection and testing, of SAE-AS22759 modified as follows:

NOTE: Specimen preparation for testing shall be 75 +/- 10 Deg. F (24 +/- 6 Deg. C) with a humidity range of 10 to 65 percent unless otherwise specified.

3.1. Conductor Coating. The conductor strands shall be silver-coated soft or drawn-and-annealed copper wire. The coating shall be continuous, adherent, and a minimum of 40 microinches thick, per SAE AS22759. Manufacturer shall provide conductor certificate of compliance and conductor test report (data sheet) with coating thickness data.

3.2. Insulation. The insulation shall be per SAE AS22759, extruded fluorinated ethylene propylene (FEP).

3.2.1. Color. See Section 6.2.

3.3. Stranding and Dimensions. The stranding and dimensions of the wire shall be in accordance with Table 1. The conductors shall be concentrically stranded and the outermost layers shall have a left hand lay.

3.4. Impulse Dielectric Test. Impulse dielectric test shall be performed on 100 percent of the wire at 11.0 KV per SAE AS22759. Any flaws detected shall be identified by removing at least 6 inches of insulation on each side of the flaw.

3.5. Insulation Resistance. The entire length of the specimen with insulation intact shall be immersed in water at room temperature to within six inches from each end of the wire for at least four hours prior to the test. The water shall contain a 0.5% (by volume) solution of a wetting agent.

Apply a DC potential of 450 ± 50 volts between the conductor and ground. After one minute electrification, measure the leakage current and compute the insulation resistance. Insulation resistance 5,000 Mega Ohms per 1000Ft. minimum at 25°C.

3.6. High Potential Altitude. The test specimen shall be placed in a vacuum chamber, the chamber evacuated to 70,000 feet (E-6 atmospheres) minimum. The specimen shall be subjected to 12 KVDC minimum for 30 seconds. The maximum leakage current shall be 2 microamps.

3.7. Solder Wetability. When tested as specified below, the wire shall retain a smooth, bright, uniform solder coating over at least 90 percent of the conductor.

a. Prepare the specimen. Strip ½-inch of insulation from a 6-inch specimen of finished wire. Bend the stripped end 90 degrees over a mandrel of its own diameter at a point ½-inch from the end of the insulation.

b. Immerse the prepared end of the conductor to within 1/8 inch of the insulation into an activated rosin base liquid flux and then into a pot of molten Sn60 (60-40 tin-lead) solder maintained at 235 +/- 5 Deg. C for 5 +/- 1 seconds.

c. Inspect the conductor under 3.5-7X magnification for completeness of coverage. The 10 percent non-wetted surface allowed may be in one area or distributed over the entire immersed surface of the conductor.

4. QUALITY ASSURANCE PROVISIONS.

4.1. Lot Definition. A lot shall be a homogeneous quantity of material offered for acceptance at one time which was produced in one manufacturing cycle under one set of conditions.

4.2. Manufacturer/Supplier Lot Inspection and Testing. The material producer or supplier shall be responsible for the performance of all test and inspections applicable to the material and shall furnish documentation in the form of a certificate of conformance.

4.3. Lot Inspection and Testing. No acceptance testing is required.

5. PACKAGING, HANDLING AND STORAGE.

5.1. It is the responsibility of the PA and their suppliers to establish site-specific processes to control shelf life, storage condition, and labeling. Packaging, handling, storage and shelf life information for the National Security Campus is located in IER 20151237KC. Packaging, handling, storage and shelf life information for suppliers shall be based on the manufacturer's recommendations or they shall follow the recommendations established in paragraphs 5.2, 5.3 and 5.4 for other locations. Documentation of material identification, preservation, and use control shall be kept and retrievable.

The following information established by Design Agencies and Production Agencies is recommended for other locations:

5.2. Labeling. It is recommended, but not required, that each individual container of material be marked with the following information:

Material Specification Number
Wire AWG Size and Stranding
Name of Manufacturer
Manufacturer's Lot Number

Date of Manufacture
Quantity of Wire Contained on a Spool
Storage Condition
Shelf Life

5.3. Storage Condition. Store as a noncombustible solid in a general plant environment at temperatures ranging from 45 to 100 degrees F.

5.4. Shelf Life. The shelf life of this material is unlimited.

6. NOTES.

6.1. Suggested Source.

Teledyne Reynolds

A. E. Petsche

6.2. Material Specification Number and Requirements.

Number	Size Code	AWG	Color	Stranding	Manufacturers P/N
8220962	823	24	Black	19/36	178-8072-00
8220963	823	24	Yellow	19/36	178-8072-04
8220964	823	24	Green	19/36	178-8072-05

6.3.

TABLE 1
Stranding and Dimensions

	Bare Conductor				Finished Wire	
AWG Size	Stranding No.	AWG	Conductor Diameter (inch, max.)	Insulation Thickness (inch, min.)	Overall Diameter (inch, max.)	DC Resistance Max. ohms/1000 ft.@20°C
24	19	36	0.025	0.008	0.050 +/- 0.005	23.6

END OF TEXT

Purchase Order Quality Requirements

Attachment to Solicitation/Purchase Order

POQR Number: POQR-8220962-8220964
Production Agency Part Number:
Design Agency Part Number:
Part Description:
POQR Revision: B
POQR Release Date: 10/24/2016
POQR Engineer: Jackie Smith
This POQR is applicable for the Production Agency Part Number shown above and the following additional Item IDs:

POQR Reason For Rev: Removing flag for packaging revision

1.0 Supplier Quality Program Requirement

1.1 QUALITY PROGRAM SPECIFICATION
This purchase order/contract is subject to Buyer's Supplier Quality Program Requirements identified below by document title, issue and date, and is incorporated herein as an attachment hereto:
Name: PQR 1010 Rev: D Released Date: 10/23/2009

2.0 Certification Type

2.1 CERTIFICATION
Form E-1609, Certification of Conformance, or equivalent certificate must be completed for this purchase order/contract. The Certificate shall also show the name of product manufacturer, lot information, test laboratory and inspection facility, if other than Seller. The Certificate must be signed by an authorized representative. One copy must accompany shipment. The Item ID listed is to be used as the Buyer Part Number on this certification.

For procured parts/materials, the Certificate of Conformance must show supply chain traceability to the parts/materials manufacturer. The Seller shall provide a copy of the manufacturer's Certificate of Conformance for the parts/materials supplied along with their own Certificate of Conformance with each shipment. Alternate methods must be approved in writing by the Buyer.

Manufacturer shall provide conductor certificate of compliance and conductor test report (data sheet) with coating thickness data.

Manufacturer/Supplier Lot Inspection and Testing. The material producer or supplier shall be responsible for the performance of all test and inspections applicable to the material and shall furnish documentation in the form of a certificate of conformance.

Name: 1609 Rev: F Released Date: 02/13/2015

3.0 Other Quality Requirements

3.1 DATA DOCUMENTATION INSTRUCTIONS
Data required by drawing set or above shall be supplied as follows:

Manufacturer shall provide the following test data for each lot submitted for acceptance.
Conductor Coating
Insulation
Color
Impulse Dielectric Test
Insulation Resistance
High Potential Altitude

Solder Wetability
DC Resistance

3.2 OTHER QUALITY REQUIREMENTS
Other quality requirements to be included in the purchase order/contract:

Material shall be labeled with the following information:

Material specification number
Wire AWG Size and Stranding
Name of manufacturer
Manufacturer's lot number
Date of manufacture
Quantity of Wire Contained on a Spool
Storage condition: G1-4
Shelf life: unlimited

4.0 Packaging

4.1 PACKAGING SPECIFICATION - GENERAL PACKAGING
Unless otherwise specified in the drawings or specifications, Specification 1464202 shall apply to all shipments made by Seller under this purchase order/contract. Subject specification is incorporated herein as an attachment hereto:
Name: 1464202 Rev: J Released Date: 11/24/2015

Purchase Order Quality Requirements

Attachment to Solicitation/Purchase Order

POQR Number:	POQR-8220963-00-823
Production Agency Part Number:	8220963-00-823
Design Agency Part Number:	82201963-00
Part Description:	WIRE, ELECTRICAL, SILVER COATED, FEP INSULATED, HIGH VOLTAGE
POQR Revision:	B
POQR Release Date:	10/24/2016
POQR Engineer:	Jackie Smith

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