

REVISIONS

| Letter | ECO No. | Description | Checked | Approved | Date |
|--------|---------|-----------------|------------|------------|---------|
| A | 36-552 | INITIAL RELEASE | <i>WFM</i> | <i>ASL</i> | 3/26/96 |
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|----------------------------|--------------------------------|--|-------------|--|
| NAME | DATE | MASSACHUSETTS INSTITUTE OF TECHNOLOGY CENTER FOR SPACE RESEARCH | | |
| Drawn: BRIAN KLATT | 3/8/96 | WIRE, ELECTRICAL, NICKEL, TFE INSULATED 19 STRAND (AWG38) | | |
| Checked: <i>W. Mayer</i> | 3/26/96 | | | |
| Approved: <i>ASL</i> | 3/26/96 | | | |
| Released: <i>D. Connor</i> | 3/26/96 | | | |
| Size | Code Identification No. | Drawing No. | Rev. | |
| T | 80230 | 36-02314 | A | |
| Scale: NONE | | Sheet: 1 of 3 | | |

1.0 SCOPE

1.1 Introduction This drawing describes requirements for stranded nickel wire with teflon insulation. This wire will be used in flight hardware for a space experiment on the AXAF CCD Imaging Spectrometer (ACIS) Instrument, in an Earth orbit 10,000 km by 140,000 km.

1.2 Absolute maximum ratings

TA = +260°C per MIL-W-22759/12
Voltage = 600 Volts per MIL-W-22759/12

2.0 APPLICABLE DRAWINGS

2.1 Specifications and Standards Unless otherwise specified, the following specifications and standards, of the latest released issue, form a part of this drawing, to the extent specified herein.

SPECIFICATIONS MILITARY

| | |
|-------------|---|
| MIL-W-22759 | Wire, Electrical, Fluoropolymer Insulated, Copper or Copper Alloy |
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|----------------|---|
| MIL-W-22759/12 | Wire, Electrical, Fluoropolymer Insulated, Extruded TFE, Nickel-coated Copper Conductor, 600 Volt |
|----------------|---|

2.2 Order of precedence In the event of conflict between the text of this drawing and the references cited herein, the text of this drawing shall govern.

3.0 REQUIREMENTS

3.1 General Requirements

3.1.1 Item Requirements The wire described herein shall, in all respects, meet the requirements of this specification.

3.1.2 Procuring Activity For the purposes of this specification and documents referenced herein, the procuring activity is the Massachusetts Institute of Technology (MIT), Center for Space Research (CSR).

3.1.3 Product Changes The supplier shall notify MIT of proposed changes to wire described herein, including changes in design, materials, fabrication methods, or processes, and changes which may affect the quality or intended end use.

3.2 Part Number The MIT part number is 36-02314.

3.3 Performance characteristics Unless otherwise specified, the electrical performance characteristics apply over the full operating temperature range.

3.3.1 Temperature The rated temperature shall be 260° C per MIL-W-22759/12.

3.3.2 Voltage The maximum voltage shall be 600 Volts AC per MIL-W-22759/12.

3.4 Design and Construction Requirements

3.4.1 Material

3.4.1.1 Wire The wire shall be solid nickel, type A (Alloy 200).

3.4.1.2 Insulation the insulation shall be extruded PTFE (teflon) per MIL-W-22759/12, .035 .043.

3.4.2 Wire Size The wire size shall be AWG26, .019 nominal.

3.4.3. Stranding The AWG26 wire shall be made up with nineteen (19) strands of AWG38 wire.

3.4.4 Finished Wire part Number The part number of the finished wire shall be Specialty Cable Corp. P/N TBD

3.5 Test Requirements

3.5.1 Spark test shall be 2500 VAC per MIL-W-22759.

3.5.2 Tensile and Elongation shall be per MIL-W-22759/12.

3.5.3 Insulation Resistance shall be 50,000 Meg Ohms/1000 feet per MIL-W-22759/12.

4.0 QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for Inspection Unless otherwise specified herein, the manufacturer is responsible for the performance of all examinations and tests as specified herein.

4.2 Quality Conformance Inspection (QCI) QCI shall be by similarity to MIL-W-22759/12.

4.3 Qualification Qualification shall be by similarity to MIL-W-22759/12.

4.4 Inspection and Test Records The supplier shall maintain inspection and test records for 36 months after wire delivery to MIT.

4.5 Government Source Inspection (GSI) The government has the right to inspect any or all of the work included in this order at the supplier's facility.

5.0 PACKAGING

5.1 Packaging requirements Packaging shall be in accordance with MIL-W-22759, section 5.

6.0 NOTES

6.1 Approved Source of Supply

Specialty Cable Corp.
Special Cable Division
2 Tower Drive
P.O. Box 50
Wallingford, CT 06492

Cage code 60685