

**TRANSMITTAL SHEET**

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KSC-SPEC-E-0020, Revision C, "AC Power Cable, Mineral-Insulated, 600-Volt, 60-Hertz, Procurement of, Specification for"

**FILING INSTRUCTIONS**

This specification, KSC-SPEC-E-0020, Revision C, dated July 24, 1996, supersedes KSC-SPEC-E-0020, Revision B, dated September 27, 1977.



**KSC-SPEC-E-0020C**

**July 24, 1996**

Supersedes  
KSC-SPEC-E-0020B  
September 27, 1977

**AC POWER CABLE, MINERAL-INSULATED,  
600-VOLT, 60-HERTZ, PROCUREMENT OF,  
SPECIFICATION FOR**

**ENGINEERING DEVELOPMENT DIRECTORATE**

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National Aeronautics and  
Space Administration

**John F. Kennedy Space Center**



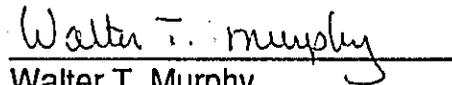
**KSC-SPEC-E-0020C**

**July 24, 1996**

Supersedes  
KSC-SPEC-E-0020B  
September 27, 1977

**AC POWER CABLE, MINERAL-INSULATED,  
600-VOLT, 60-HERTZ, PROCUREMENT OF,  
SPECIFICATION FOR**

Approved:



Walter T. Murphy  
Director of Engineering Development

**JOHN F. KENNEDY SPACE CENTER, NASA**

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July 24, 1996

JOHN F. KENNEDY SPACE CENTER, NASA  
AC POWER CABLE, MINERAL-INSULATED,  
600-VOLT, 60-HERTZ, PROCUREMENT OF,  
SPECIFICATION FOR

## 1. SCOPE

This specification provides data for the procurement of mineral-insulated (MI), 600-volt, 60-hertz, alternating current (ac) power cable. The cables included in this specification employ soft annealed, uncoated copper, conductors insulated with a highly compressed refractory mineral insulation.

## 2. APPLICABLE DOCUMENTS

The following documents form a part of this document to the extent specified herein. When this document is used for procurement, including solicitation, or is added to an existing contract, the specific revision levels, amendments, and approval dates of said documents shall be specified in an attachment to the Solicitation/Statement of Work/Contract.

### 2.1 Governmental.

#### Drawings.

John F. Kennedy Space Center (KSC), NASA

79K06110

MI Cable Termination, Procedure for

(Copies of specifications, standards, drawings, and publications required by suppliers in connection with specified procurement functions should be obtained from the procuring activity or as directed by the Contracting Officer.)

### 2.2 Non-Governmental.

American Society for Testing and Materials (ASTM)

ASTM B5

Electrolytic Copper Wire Bars, Cakes,  
Slabs, Billets, Ingots, and Ingot Bars,  
Specification for

(Applications for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.)

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### 3. REQUIREMENTS

#### 3.1 Material.

3.1.1 Individual Conductors. - Conductors shall be solid soft annealed uncoated high conductivity copper complying with ASTM Specification B5.

3.1.2 Insulation. - Insulating materials shall consist of finely divided, highly compressed magnesium oxide powder.

3.1.2.1 Working Voltage. - The working voltage of the completed cables shall be 600 volts, 60 hertz.

3.1.2.2 Temperature. - Maximum operating temperature shall be 90 degrees Celsius (°C).

#### 3.2 Cabling.

3.2.1 Cable Assembly. - The completed cable shall consist of conductors and insulation contained within a seamless phosphorized copper tube.

3.2.2 Terminations. - Termination of MI cables will be in accordance with 79K06110.

#### 3.3 Surface Marking.

3.3.1 Printing. - Cables listed in this specification shall be tagged per manufacturer provisions for bare copper MI cable.

#### 3.4 Application.

3.4.1 Installation. - Exposed, conduit, duct, or raceway above or below grade.

3.4.2 Use. - Power, lighting, and control in extreme environments.

### 4. QUALITY ASSURANCE PROVISIONS

All MI cable shall have the Underwriter's Laboratories (UL) stamp or label.

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## 5. PREPARATION FOR DELIVERY

Cable and wire shall be packaged in accordance with the manufacturer's standard practice, providing that it insures protection for the product during shipment and safe delivery to its destination.

## 6. NOTES

6.1 Intended Use. - This specification is intended to provide information for the procurement of mineral-insulated (MI), 600-volt, 60-hertz ac power cable for use at the Kennedy Space Center (KSC).

6.2 Ordering Data. - Procurement documents should specify the following:

- a. Title, number, and date of this specification.
- b. Length of wire required and number of lengths.
- c. Number of conductors.
- d. Conductor size.

**NOTICE.** The Government drawings, specifications, and/or data are prepared for the official use by, or on the behalf of, the United States Government. The Government neither warrants these Government drawings, specifications, or other data, nor assumes any responsibility or obligation, for their use for purposes other than the Government project for which they were prepared and/or provided by the Government, or an activity directly related thereto. The fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data is not to be regarded, by implication or otherwise, as licensing in any manner the holder or any other person or corporation, nor conveying the right or permission, to manufacture, use, or sell any patented invention that may relate thereto.

Custodian:

NASA - John F. Kennedy Space Center

Preparing Activity:

John F. Kennedy Space Center  
Electrical Division  
Engineering Development Directorate

# STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

## INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete blocks 4, 5, 6, and 7.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

**NOTE:** This form may not be used to request copies of documents, nor to request waivers or clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document or to amend contractual requirements.

**I RECOMMEND A CHANGE:**

1. DOCUMENT NUMBER

KSC-SPEC-E-0020 Rev. C

2. DOCUMENT DATE

July 24, 1996

3. DOCUMENT TITLE

AC Power Cable, Mineral-Insulated, 600-Volt, 60-Hertz, Procurement Of, Specification For

4. NATURE OF CHANGE *(Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)*

5. REASON FOR RECOMMENDATION

6. SUBMITTER

a. NAME *(Last, First, Middle Initial)*

b. ORGANIZATION

c. ADDRESS *(Include Zip Code)*

d. TELEPHONE *(Include Area Code)*

7. DATE SUBMITTED

8. PREPARING ACTIVITY

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