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NASA/KSC GUIDE SPECIFICATIONS
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SECTION TABLE OF CONTENTS

DIVISION 26 - ELECTRICAL

SECTION 26 05 19.33 98

MINERAL-INSULATED (MI) CABLE

02/09

-- End of Section Table of Contents --

SECTION 26 05 19.33 98

MINERAL-INSULATED (MI) CABLE
02/09

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NOTE: This specification covers the requirements for this KSC local specification covers mineral insulated (MI) electrical cables.

This section is not to be changed but used in its entirety whenever mi cable is required on the project. Notes are for designer information and do not appear in the final project specification.

Edit this guide specification for project specific requirements by adding, deleting, or revising text. For bracketed items, choose applicable items(s) or insert appropriate information.

Remove information and requirements not required in respective project, whether or not brackets are present.

Recommended changes to a NASAKSC Master Specification Section should be submitted as a Criteria Change Request (CCR) to the appropriate Technical Proponent (TP) through the SpecsIntact Help Desk.
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PART 1 GENERAL

1.1 SUBMITTALS

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NOTE: Review Submittal Description (SD) definitions in Section 01 33 00 SUBMITTAL PROCEDURES and edit the following list to reflect only the submittals required for the project. Keep submittals to the minimum required for adequate quality control.

A "G" following a submittal item indicates that the submittal requires Government approval. Some submittals are already marked with a "G". Only delete an existing "G" if the submittal item is not complex and can be reviewed through the Contractor's Quality Control system. Only add a "G" if the submittal is sufficiently important or complex in

context of the project.

For submittals requiring Government approval on Army projects, use a code of up to three characters within the submittal tags following the "G" designation to indicate the approving authority. Codes for Army projects using the Resident Management System (RMS) are: "AE" for Architect-Engineer; "DO" for District Office (Engineering Division or other organization in the District Office); "AO" for Area Office; "RO" for Resident Office; and "PO" for Project Office. Codes following the "G" typically are not used for Navy, Air Force, and NASA projects.

Choose the first bracketed item for Navy, Air Force and NASA projects, or choose the second bracketed item for Army projects.

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Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are [for Contractor Quality Control approval.][for information only. When used, a designation following the "G" designation identifies the office that reviews the submittal for the Government.] Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-03 Product Data

Submit Manufacturer's catalog data for the following items:

Mineral-Insulated (MI) Cable
Sealing Compound

SD-07 Certificates

Submit Certificates for the following items showing conformance with the referenced standards contained in this section.

Mineral-Insulated (MI) Cable
Sealing Compound

1.2 GENERAL REQUIREMENTS

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NOTE: If Section 26 05 00.00 40 COMMON WORK RESULTS FOR ELECTRICAL and Section 26 00 00.00 20 BASIC ELECTRICAL MATERIALS AND METHODS are not included in the project specification, insert applicable requirements therefrom and delete the following paragraph.

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Section 26 05 00.00 40 COMMON WORK RESULTS FOR ELECTRICAL and Section 26 00 00.00 20 BASIC ELECTRICAL MATERIALS AND METHODS apply to work specified in this section.

All work in this section that is covered by procedure 79K06110 is to be in accordance with Specification 79K06110.

PART 2 PRODUCTS

2.1 MINERAL-INSULATED (MI) CABLE

MI cable is to consist of soft annealed, uncoated, copper conductors insulated with a highly compressed refractory mineral insulation.

2.2 SEALING COMPOUND

Sealing compound is to be in accordance with procedure 79K06110.

PART 3 EXECUTION

3.1 GENERAL

Length of cable needed for a particular run is to be measured and an allowance made for the length of conductor needed at each end to properly make the desired terminations. Cut cable to the necessary length with a hacksaw. Cable cutters and other cutting tools that exert excessive pressure on the metallic sheath is not to be used. Immediately following cutting, seal both ends of the cable in accordance with Specification 79K06110 to prevent moisture penetration of the insulation. Cutting is to be done immediately preceding installation.

Train cable into place by hand wherever possible. On straight runs, it can be straightened into its final position by being tapped with a wooden mallet, block, or plank.

Avoid sharp bends and kinks during preliminary handling and training.

Support cable at least every 1800 millimeter 6 feet during handling and training.

Make bends by approved template or hand hickey. Minimum bending radius of the inside edge of any bend is five times the diameter of the cable.

Form a loop or an offset in the cable within 1200 millimeter 4 feet of cable terminations in all runs exceeding 9.1 meter 30 feet. Loop or offset is to be of such a size as to provide a minimum of 300 millimeter 12 inches of excess cable to allow for retermination without replacing the cable run.

Make termination in accordance with Specification 79K06110.

Support MI cables as shown on the drawings. Intervals between supports are not to be more than 1800 millimeter 6 feet on both horizontal and vertical runs. MI cable installed in ducts, raceways, conduits, and cable trays is to be deemed adequately supported along horizontal runs. Wrap cable with an adhesive heat-resistant glass tape at each support point to minimize electrolysis between the cable sheath and the supports. Wrap is to be a minimum thickness of 0.36 millimeter 14 mils (two complete wraps of 0.18 millimeter 7-mil tape) and is to extend past the support device a minimum of 6.4 millimeter 1/4 inch on each side. As an alternative to the tape wrapping, MI cable with a plastic jacket can be used.

No splices are to be made in runs of MI cable unless specifically shown on the drawings. If splices are so shown, they are to be made only in junction boxes.

3.2 TESTS

Test MI cables in accordance with procedure 79K06110.

-- End of Section --