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5-46kV Shielded Power Cable for Use in the Transmission and Distribution of Electric Energy

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Foreword

This Standards Publication for 5-46 kV Shielded Power Cable for Use in the Transmission and Distribution of Electric Energy was developed by the Insulated Cable Engineers Association (ICEA) and approved by the National Electrical Manufacturers Association (NEMA).

ICEA/NEMA Standards are adopted in the public interest and are designed to eliminate misunderstanding between the manufacturer and the user and to assist the user in selecting and obtaining the proper product for his particular need. Existence of an ICEA/NEMA Standard does not in any respect preclude the manufacture or use of products not conforming to the standard. The user of this Standard is cautioned to observe any health or safety regulations and rules relative to the manufacture and use of cable made in conformity with this Standard.

Requests for interpretation of this Standard must be submitted in writing to:

Insulated Cable Engineers Association
P.O. Box 1568
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An official written interpretation will be provided once approved by ICEA and NEMA. Suggestions for improvements gained in the use of this Standard will be welcomed by the Association.

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Section 1
GENERAL

1.1 SCOPE

This standard applies to materials, constructions, and testing of 5000 volt to 46,000 volt shielded crosslinked polyethylene, and ethylene propylene rubber insulated wires and cables which are used for the transmission and distribution of electrical energy for normal conditions of installation and service, either indoors, outdoors, aerial, underground, or submarine.

1.2 GENERAL INFORMATION

This standard covers the requirements for conductors, the insulations and protective coverings and general constructional and dimensional details common to most standard shielded types of wires and cables. Constructions of specific types are covered in Section 11 or in other ICEA documents. Where a conflict exists between the requirements of Section 11, or other ICEA documents, and those of Sections 1 to 9 inclusive, the requirements of specific types shall apply. See Appendix A for complete titles and dates of ICEA publications and ASTM Standards to which reference is made in this publication. See Section 9 for test procedures not elsewhere referenced. Recommended minimum bending radii are given in Appendix I.

In classifying crosslinked insulations and jackets in this standard, the term "rubber" when used alone without further description shall mean synthetic rubber.

Insulation thicknesses are designated in terms of cable insulation levels (see 4.2).

In classifying jackets and sheaths in this standard, the term "jacket" refers to a continuous nonmetallic covering and "sheath" to a continuous metallic covering.

U.S. customary units, except for temperature, are specified throughout this standard. Approximate International System of Units (SI) equivalents are included for information only.

Requirements of a referenced ASTM standard shall be determined in accordance with the procedure or method designated in the referenced ASTM standard unless otherwise specified in this standard.

1.3 INFORMATION TO BE SUPPLIED BY PURCHASER

When requesting design proposals from cable manufacturers, the prospective purchaser should furnish the following information:

1.3.1 Characteristics of System on Which Cable is to be Used

1. Current - alternating or direct.
2. Frequency - hertz.
3. Normal operating voltage between phases or, in direct current, between conductors.
4. Number of phases and conductors.
5. Cable insulation level (see 4.2).
6. Minimum temperature at which cable will be installed.
7. Description of installation.
   a. In buildings.
   b. In underground ducts.