ANSI/ICEA S-105-692

STANDARD FOR 600 VOLT
SINGLE LAYER THERMOSET INSULATED
UTILITY UNDERGROUND
DISTRIBUTION CABLES

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Standard For 600 Volt Single Layer Thermoset Insulated Utility Underground Distribution Cables

Developed and Published by

Insulated Cable Engineers Association, Inc.
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Foreword

This standard publication for 600 Volt Single Layer Thermoset Insulated Utility Underground Distribution Cables, *ICEA S-105-692* was developed by the Insulated Cable Engineers Association, Inc. (ICEA)

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Request for interpretation of this standard must be submitted in writing to the Insulated Cable Engineers Association, Inc. Box 1568, Carrollton, Georgia 30112. An official written interpretation will be provided. 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 the materials, constructions, and testing of single conductor cables and assemblies of completed single conductor thermoset insulated cables, with an insulated or bare copper or an insulated aluminum neutral, used for the distribution of electrical energy at phase-to-phase voltages not exceeding 600 volts, or phase-to-ground voltage not exceeding 480 volts, 60 Hz, and at conductor temperatures not exceeding 90 °C for use in direct burial and underground ducts.

1.2 CONSTRUCTIONS

Single conductor cables and assemblies of single conductor cables shall use conductors not smaller than 8 AWG and not larger than 1000 kcmil. The conductors of a duplex assembly shall be of the same size. When allowed, the neutral in an assembly of three cables for use in single-phase 3-wire circuits, or the neutral in an assembly of four cables, may be reduced but shall not be less than 50% of the cross-sectional area of one phase conductor. The neutral shall be insulated if the conductor is aluminum and may be bare or insulated if the conductor is copper.

1.3 DESIGN OPTIONS

The user of this standard should recognize that it covers many options. The user should select the necessary options required for a complete description of the desired cable.

1.3.1 Conductors

Metal - Aluminum 1350, AA-8000 Series alloy, or copper.
Size - 8 AWG to 1000 kcmil, aluminum or copper.

Conductor Stranding - See Section 2.

1.3.2 Insulation

90 °C Rated - See Section 3

1.3.3 Neutral

Insulated aluminum, bare copper, insulated copper – See Section 2

1.3.4 Assembly

See Section 4.1 - Twisted or parallel - Two or more insulated conductors without an overall covering