ANSI/ICEA S-81-570-2019

Standard for 600 Volt Rated Cables of Ruggedized Design for Direct Burial Installations as Single Conductors or Assemblies of Single Conductors

Approved as an American National Standard

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Contents

APPENDICES

LIST OF TABLES

Foreword

This standard publication, *600 Volt Rated Cables of Ruggedized Design for Direct Burial Installation as Single Conductors or Assemblies of Single Conductors*, 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:

Insulated Cable Engineers Association, Inc.
www.icea.net

An official written interpretation will be provided. Suggestions for improvements gained in the use of this standard will be welcomed by the Association.

The members of the ICEA working group contributing to the revision of this publication consisted of the following:

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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 cables used for the distribution of electrical energy at phase-to-phase voltages not exceeding 600 volts or phase to ground not exceeding 480 V, and at temperatures not exceeding 75 °C or 90 °C, as applicable to the construction. It requires the use of ruggedized extruded insulations to improve the resistance of the cable to certain forms of mechanical damage associated with their intended use as directly buried Secondary Distribution and Service Cables. These cables, when operated within the voltage and temperature limits stated herein, are also suitable for use in other types of installations under the conditions normally associated with those installations.

1.2 CONSTRUCTIONS

Single conductor cables and assemblies of single conductor cables shall use conductors not smaller than 8 AWG and not larger than 1,000 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.

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

See Section 2.
Metal – aluminum 1350, AA-8000 series aluminum alloy, copper.
Size – 8 AWG to 1000 kcmil

1.3.2 Insulation

See Section 3.
75 °C or 90 °C Rated

1.3.3 Assembly

See Section 4.
Twisted or parallel - Two or more insulated conductors without an overall covering.