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ICEA STANDARD FOR
COAXIAL AND COAXIAL/TWISTED PAIR
HYBRID BURIED SERVICE WIRES TECHNICAL
REQUIREMENTS

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FOREWORD

(This Foreword is not part of this Standard.)

ICEA Standards are adopted in the public interest and are designed to eliminate misunderstanding between the manufacturer and user and to assist the user in selecting and obtaining proper products for a particular need. The existence of an ICEA Standard does not in any respect preclude the manufacture or use of products not conforming to this Standard.

The user of this Standard is cautioned to observe any applicable health or safety regulations and rules relative to the manufacture and use of cable made in conformity with this Standard. This Standard hereafter assumes that only properly trained personnel using suitable equipment will manufacture, test, install, and/or perform maintenance on cables defined by this Standard.

Requests for interpretation of this ICEA Standard must be submitted in writing (hard copy or email) to the Secretary of the Insulated Cable Engineers Association. The mailing address of ICEA Headquarters and a Contact link are shown on the ICEA web site - www.icea.net. An official written interpretation will be provided.

This Standard was approved by ICEA on TBD. The members of the ICEA Communications Cable Section, Working Group 701, who participated in this project, were:

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This Standard replaces ICEA S-91-674-2011, which was titled “Coaxial and Coaxial/Twisted Pair Composite Buried Service Wires Technical Requirements”. The title of this revision has been updated to “Coaxial and Coaxial/Twisted Pair Hybrid Buried Service Wires Technical Requirements”. The words composite and hybrid have been interchanged to reflect the information presented in the note below.

Note: ICEA Standards prior to 2012, including the previous edition of this Standard, use definitions for composite and hybrid which are the exact opposite of those shown in ICEA Standards after 2012 (inclusive). The change in definitions was made in the interest of harmonization with international documents and other national standards. It must be noted that the definition of composite in the National Electrical Code, 2011 and earlier, are consistent with the older ICEA definition. Due to this change, users may see the terms used interchangeably. Regarding the definition for hybrid, IEC uses a definition which encompasses metallic conductors used for all purposes – not just communication.

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Section 1 GENERAL

1.1 PURPOSE

The purpose of this Standard is to establish generic technical requirements that may be referenced by individual telecommunications cable specifications covering products intended for buried outside plant use in the wiring systems of communications users. The parameters covered provide material, construction, and performance requirements.

Because this Standard does not cover all details of individual cable design, it cannot be used as a single document for procurement of product. This Standard is intended for use in conjunction with an individual product specification that provides complete design details for the specific cable type and designates the applicable performance requirements. Such individual cable specifications may be prepared either by the user or the manufacturer. The specification designated for procurement is at the option of the user.

1.2 SCOPE

This Standard covers mechanical and electrical requirements of service wires containing at least one coaxial core and optionally up to six twisted pairs, used for service applications to extend the telephone/multimedia circuit from the distribution terminal to the subscriber's station protected NID (Network Interface Device) or protected NIU (Network Interface Unit).

Furthermore, a distinction between Type I and Type II is made with regard to transmission characteristics and shielding materials of the coaxial unit.

Buried Service Wire is used to extend buried telephone plant from the distribution cable to the subscriber.

The coaxial unit is intended to be used for either RF or compressed digital video and radio transmissions. This unit shall also allow bi-directional traffic. The coaxial unit should also be capable of carrying high speed digital signals for LAN/WAN applications (such as T1, ISDN, etc.) as well as POTS (Plain Old Telephone Services). The network supporting these protocols will be based upon physical lines having a characteristic impedance of 75 Ω . The coaxial units are specified in three and four common sizes for Type I and Type II respectively, to accommodate different drop lengths.

The twisted pair wires are intended for voice and data transmission and their characteristics are based upon existing system requirements and projected application needs.

1.3 OPTIONS AND INFORMATION

This Standard is arranged in sections covering specific areas of cable requirements and may be referenced as complete sections or as individual paragraphs.

Paragraphs of this Standard where the user may specify a particular option are listed below:

- 2.2.1 Center Conductor of Coaxial Unit
- 2.2.2.1 Shielding Tape
- 2.2.2.2 Braid