ICEA STANDARD FOR

COAXIAL AND COAXIAL/TWISTED PAIR COMPOSITE BURIED SERVICE WIRES TECHNICAL REQUIREMENTS

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GLOBAL ENGINEERING DOCUMENTS
15 Inverness Way East
Englewood, CO 80113-5776 USA
Telephone: (800) 854-7179
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FOREWORD

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Secretary
Insulated Cable Engineers Association, Inc.
Post Office Box 1568
Carrollton, GA 30112, U.S.A.
United States of America

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This Standard was approved by ICEA on July 20, 2011.
The members of the ICEA Communications Cable Section, Working Group 674, who participated in this project, were:

D. K. Baker G. Dorna R. Gould P. Fraley

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TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS

CONTENTS SECTION PAGE

TABLES

FIGURES

TABLE OF CONTENTS

APPENDICES

INFORMATIVE ANNEXES

ACRONYMS, ABBREVIATIONS AND SYMBOLS

A	ampere
ac	alternating current
AISI	American Iron and Steel Institute
ANSI	American National Standards Institute
ASTM	American Society for Testing and Materials
AWG	American Wire Gauge
°C	degrees of temperature, Celsius scale
CAS	Chemical Abstract Services
cc	cubic centimeter
Cg	capacitance-to-ground
cm	centimeter
Cu	chemical symbol for copper
dB	decibels
dc	direct current
ECCS	electrolytic chrome coated steel
EIA	Electronics Industry Alliance
°F	degrees of temperature, Fahrenheit scale
ft	foot or feet
ft^2	square foot or feet
g	gram
Hz	Hertz
IACS	International Annealed Copper Standard
ICEA	Insulated Cable Engineers Association
in	inch
in^2	square inch
ISDN	intergrated services digital network
ISO	International Organization for Standardization
kft	kilofoot or kilofeet
kg	kilogram
kHz	kilohertz
km	kilometer
kPa	kilopascal
kV	kilovolt
LAN	local area network
lb	pound
lbf	pound of force
m	meter
m^2	square meter
Mb	megabit
mg	milligram
MHz	megahertz
min.	minute
ml	milliliter
mm	millimeter

ACRONYMS, ABBREVIATIONS AND SYMBOLS – (continued)

mm^2	square millimeter
MPa	megapascal
N	Newton
NEC	National Electrical Code
NESC	National Electrical Safety Code
nF	nanofarad
NID	network interface device
NIU	network interface unit
oz	ounce
%	percent
pF	picofarad
POTS	plain old telephone service
psi	pounds per square inch
PVC	polyvinyl chloride
RF	radio frequency
rms	root-mean-square
SCTE	Society of Cable Telecommunication Engineers
sec	second
T1	North American digital hierarchy line code – equivalent to 1.544 Mb/sec
UL	Underwriters Laboratories
WAN	wide area network
^{o}	degrees symbol, temperature or angle

COAXIAL AND COAXIAL/TWISTED PAIR COMPOSITE BURIED SERVICE WIRES TECHNICAL REQUIREMENTS

Section 1 GENERAL

1.1 PURPOSE: The purpose of this Standard is to establish generic technical requirements that may be referenced by individual telecommunications wire specifications covering products intended for buried outside plant use. The parameters covered provide material, construction, and performance requirements.

Because this Standard does not cover all details of individual wire designs, it cannot be used as a single document for procurement of product. This Standard is intended to be used in conjunction with an individual product specification that provides complete design details for the specific wire type and designates the applicable performance requirements. Such individual wire 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 ~~or~~ 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 Ohms. 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 wire requirements and may be referenced as complete Sections or as individual paragraphs.