STANDARD FOR
RISER CABLES
TECHNICAL REQUIREMENTS

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ICEA STANDARD FOR

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This Standard was approved by ICEA on July 20, 2011. The members of the ICEA Communications Cable Section, Working Group 701, who participated in this project, were:

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TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS

CONTENTS: SECTION PAGE

TABLES AND FIGURE

APPENDICES

INFORMATIVE ANNEXES

ACRONYMS, ABBREVIATIONS AND SYMBOLS

ANSI	American National Standards Association
ASTM	American Society for Testing and Materials
AWG	American Wire Gauge
α	Attenuation
°C	Degrees of Temperature, Celsius scale
CMG	UL Listing designation for General Purpose Communication Cable
CMR	UL Listing designation for Riser Communication Cable
°	degrees symbol, temperature or angle
dc	Direct current
db	decibel
DOD	Diameter over dielectric
EIA	Electronics Industry Association
EL FEXT	Equal Level Far End Crosstalk
EPA	Environmental Protection Agency
°F	Degrees of Temperature, Fahrenheit scale
FCC	Federal Communications Commission
f	frequency
FEXT	Far End Crosstalk
ft	foot or feet
FR	Federal Register
g	gram
ICEA	Insulated Cable Engineers Association
IEC	International Electro Commission
in	inch
in^2	Inches squared
IO FEXT	Input/Output Far End Crosstalk
ISO	International Standards Organization
kHz	kilohertz
%	percent
lbf	pound of force
LS	limited smoke
MHz	Megahertz
m	meter
m^3	cubic meter
mA	milliampere
ml	milliliter
mm	millimeter
MPa	megapascal
N	Newton
nf	nanofarad
NFPA	National Fire Protection Association
NEC	National Electrical Code
NEXT	Near End Crosstalk

ACRONYMS, ABBREVIATIONS AND SYMBOLS -continued

ns	nanosecond
oz	ounce
PS EL FEXT	Power Sum Equal Level Far End Crosstalk
PS NEXT	Power Sum Near End Crosstalk
pf	picofarad
ph	potential of hydrogen
ppm	part per million
psi	pounds per square inch
QuEST	Quality Excellence for Suppliers of Telecommunications
rms	root mean squared
SRL	Structural Return Loss
TCLP	Toxicity Characteristics Leaching Procedure
µS	microsiemen
UL	Underwriters Laboratories

ICEA STANDARD FOR
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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 normal indoor premises 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, electrical and flammability requirements for riser cables. Depending upon the application and system requirements, this Standard provides choices for materials and transmission characteristics.

For those characteristics where no differentiation is made, the performance requirements are applicable to all cables. Selection of the applicable type shall be at the discretion of the user and shall be designated in the product specification.

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.

Riser cables are suitable for runs in vertical shafts of multi-story buildings. The typical cable construction is individually unshielded twisted pair of thermoplastic insulated copper conductors, with an overall 8-mil bonded aluminum shield and thermoplastic jacket. Such cables are typically available in pair counts from 25-3600.

These cables are intended for voice, text, data, video, and image transmission and are categorized by electrical transmission characteristics based on existing system requirements and projected application needs.

Historically, Riser cable transmission performance has been similar to Outside Plant requirements. Optionally, Category 3 performance may be chosen, and must be clearly marked. This Standard covers the minimum transmission performance requirements for the following classes of cable:

Class A: Intended for basic voice, text and data transmission with transmission characteristics specified to support T1 carrier transmission. These cables are referred to as ARxM, where “x” designates the conductor size; T for 26 AWG, M for 24 AWG and A for 22 AWG.

Class B: Intended for voice, text, data, video and image transmission with transmission characteristics specified for frequencies up to 16 MHz. These cables meet all requirements of a Category 3 cable.