

ICEA-S80.576

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STANDARD FOR
CATEGORY 1 & 2 INDIVIDUALLY UNSHIELDED
TWISTED PAIR INDOOR CABLES
FOR USE IN COMMUNICATIONS WIRING SYSTEMS
TECHNICAL REQUIREMENTS

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INSULATED CABLE ENGINEERS ASSOCIATION, Inc.

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INSULATED CABLE ENGINEERS ASSOCIATION, Inc.

P.O. Box 440

South Yarmouth, Massachusetts 02664 USA

FOREWORD

ICEA Standards are published in the public interest and are intended to promote product uniformity and quality throughout the industry. Existence of an ICEA publication does not in any respect preclude the manufacture or use of products not conforming to the 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 manufacture, testing, installation, and maintenance of cables defined by this Standard will be performed only by properly trained personnel using suitable equipment and employing appropriate safety precautions.

Questions of interpretation of ICEA Standards can only be accepted in writing at Headquarters by the Secretary, and the reply shall be provided in writing.

Suggestions for improvements in this Standard are welcome and should be sent to ICEA at the address below.

This Standard was developed by the Telecommunications Wire and Cable Standards Technical Advisory Committee whose membership consisted of technical experts from the manufacturing, user, and general interest segments of the industry. It was approved by ICEA on December 6, 2000. The members of the ICEA Communications Cable Section, Working Group 647, who participated in this project were:

T. G. Hardin
J.-H. Walling
V. Orsornio

D.K.Baker
J.W. Grabowski

K. Maggard
G. L. Dorna

TELECOMMUNICATIONS WIRE AND CABLE STANDARDS
TECHNICAL ADVISORY COMMITTEE

	<u>1999-2000</u>	<u>2000-2001</u>
Committee Chairperson:	B. Pope	E. Gurney
Committee Vice-Chairperson:	E. Gurney	T. Rhoades

Individuals who participated in the development of this Standard (manufacturer and user representatives):

R. Allen	Mohawk/CDT
J. Baer	Superior Essex Telecommunications
J. Baez	CANTV/GTE
D. K. Baker	Superior Essex Telecommunications
D. W. Baker	Belden Intech Division
R. Dettmann	Ameritech
J. Grabowski	Prestolite Corp.
G. Greer	Norcom/CDT
E. Gurney	GTE
T. Hardin	Lucent Technologies
G. Hessler	USDA/RUS
D. Lindsay	Southwire Co.
M. Manvela de Faria	CANTV/GTE
R. Marretta	Coleman Cable
F. Marquez	Condumex S.A. de C.V.
V. Osornio	Condumex S.A. de C.V.
K. Owens	CommScope
B. Pope	Belden Wire & Cable
T. Rhoades	Belden Communications Div.
C. Rim	General Cable
A. Schaffstein	Belden Wire & Cable
D. Stevens	Berk Tek
A. Turner	Southwire Co.
J.-H. Walling	NORDX/CDT

Associate Members who participated in the development of this Standard:

G. Brown	Union Carbide
E. Brunner	Nova-Borealis
R. Ellis	NEPTCO
W. Perrard	Copperweld
T. Schloemer	Equistar Chemicals

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ACRONYMS, ABBREVIATIONS AND SYMBOLS

ANSI	American National Standards Association
ASTM	American Society for Testing and Materials
ASQC	American Society for Quality Control
ASQ	American Society for Quality
AWG	American Wire Gauge
Centigrade	Degrees of Temperature, Celsius scale
cm	centimeter(s)
CM	UL Listing designation for General Purpose Communication Cable
CMG	UL Listing designation for General Purpose Communication Cable
CMR	UL Listing designation for Riser Communication Cable
CMP	UL Listing designation for Plenum Communication Cable
CMX	UL Listing designation for Indoor/Outdoor Communication Cable
DC	Direct Current
dB	decibel(s)
Fahrenheit	Degrees of Temperature, Fahrenheit scale
ft	foot or feet
gm(s)	gram(s)
ICEA	Insulated Cable Engineers Association
in	inch(es)
kHz	kilohertz
kg	kilogram
lbf	pound(s) of force
lbs	pound(s) of weight
L	Length
MHz	Megahertz
m	meter(s)
mm	millimeter(s)
MPa	megapascal
N	Newton
nFd	nanofarad
NEC	National Electrical Code
ns	nanoseconds
OIT	Oxidation Induction Time
oz	ounce(s)
pFd	picofarad
psi	pounds per square inch
S	Siemens
Sec	Second(s)
SI	International System of Units
UL	Underwriters Laboratories
°	degrees symbol, temperature or angle
α	Attenuation

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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 indoor wire and cable intended primarily for use in telecommunication networks, or as patch cords. Depending upon the application and system requirements, this Standard provides choices for materials, transmission characteristics and flammability ratings.

The typical cable construction may be unshielded twisted pair, quad, or unpaired thermoplastic insulated copper conductors covered by a thermoplastic jacket.

Patch cordage is a length of cable intended to be combined with connectors on one or both ends to join telecommunication circuits/links at the cross-connect.

This Standard covers the minimum performance requirements for the following Categories of cable:

Category 1: Intended for basic voice communications.

Category 2: Intended for basic voice, text and low speed data transmission with transmission characteristics specified for frequencies up to 1 MHz.

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

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 must specify a particular option are listed below: