



ANSI/ICEA S-84-608-2017  
Standard for Telecommunications Cable  
Filled, Polyolefin Insulated, Copper  
Conductor Technical Requirements



**ICEA STANDARD FOR  
TELECOMMUNICATIONS CABLE  
FILLED, POLYOLEFIN INSULATED, COPPER CONDUCTOR  
TECHNICAL REQUIREMENTS**

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**TABLE OF CONTENTS**

CONTENTS:	SECTION	PAGE
1.	<b><u>GENERAL</u></b>	
1.1	PURPOSE.....	1
1.2	SCOPE.....	1
1.3	OPTIONS AND INFORMATION .....	1
1.4	UNITS AND TOLERANCES.....	2
1.5	REFERENCES.....	2
1.6	QUALITY ASSURANCE.....	2
1.7	SAFETY CONSIDERATIONS .....	3
2.	<b><u>CONDUCTORS</u></b>	
2.1	REQUIREMENTS .....	3
2.2	FACTORY JOINTS .....	4
3.	<b><u>CONDUCTOR INSULATION</u></b>	
3.1	INSULATION MATERIALS .....	4
3.1.1	Propylene/Ethylene Copolymer.....	4
3.1.2	High-Density Polyethylene .....	4
3.1.3	Medium-Density Polyethylene.....	4
3.2	INSULATION TYPE .....	4
3.2.1	Solid.....	4
3.2.2	Foam.....	4
3.2.3	Foam-Skin.....	4
3.3	INSULATION DIMENSIONS, COLORS, AND SPLICES .....	4
3.4	INSULATION PHYSICAL REQUIREMENTS .....	5
3.4.1	Insulation Adhesion.....	5
3.4.2	Elongation .....	5
3.4.3	Compression.....	5
3.4.4	Cold Bend .....	6
3.4.5	Shrinkback .....	6
3.4.6	Thermal Oxidative Stability .....	6
3.5	TWIST LENGTH AND COLOR CODING .....	6
4.	<b><u>CORE CONSTRUCTION</u></b>	
4.1	CORE LAYUP .....	7
4.2	BINDERS .....	9
4.3	SPARE PAIRS .....	9
4.4	CORE WRAP .....	10
4.5	FILLING COMPOUND .....	10
4.5.1	Type Filling Compound .....	11
4.5.2	Adequacy of Fill .....	11

**TABLE OF CONTENTS**

CONTENTS:	SECTION	PAGE
	4.6 FLOODING COMPOUND .....	11
	4.7 WATER SWELLABLE MATERIALS.....	11
5.	<b><u>INTERNAL SCREENS</u></b>	
	5.1 DESCRIPTION.....	11
	5.2 SCREEN MATERIAL .....	12
	5.2.1 Film Delamination .....	12
	5.3 SERVICE PAIRS.....	12
6.	<b><u>SHIELDS</u></b>	
	6.1 SHIELDING SYSTEMS.....	12
	6.2 SHIELD MATERIALS.....	13
	6.2.1 8-mil Bare Aluminum Tape.....	13
	6.2.2 8-mil Coated Aluminum Tape.....	13
	6.2.3 5-mil Copper Tape .....	13
	6.2.4 5-mil Copper Clad Alloy Steel Tape .....	13
	6.2.5 5-mil Copper Clad Stainless Steel Tape .....	14
	6.2.6 6- and 7-mil C194 Copper Alloy Tape.....	14
	6.2.7 5-mil C230 Copper Alloy Tape.....	14
	6.2.8 6-mil Bare Steel Tape .....	14
	6.2.9 6-mil Coated Steel Tape .....	15
	6.3 SHIELD APPLICATION.....	15
	6.3.1 Shield Corrugation .....	15
	6.3.2 Shield Overlap .....	15
	6.3.3 Shield Splices .....	16
	6.4 CORROSION RESISTANCE TEST .....	16
	6.5 GOPHER RESISTANCE TEST.....	16
7.	<b><u>POLYETHYLENE INNER AND OUTER JACKET</u></b>	
	7.1 INNER JACKET .....	17
	7.1.1 Material and Test Requirements .....	17
	7.1.2 Inner Jacket Thickness Requirement.....	17
	7.2 OUTER JACKET .....	17
	7.2.1 Raw Material .....	17
	7.2.2 Outer Jacket Thickness Requirement .....	18
	7.2.3 Completed Cable Material Requirements .....	18
	7.2.4 Shrinkback .....	20
	7.2.5 Sheath Adherence-Unbonded.....	20
	7.2.6 Sheath Adherence-Bonded.....	20

**TABLE OF CONTENTS**

CONTENTS:	SECTION	PAGE
8.	<b><u>ELECTRICAL REQUIREMENTS</u></b>	
8.1	DC RESISTANCE .....	21
8.2	DC RESISTANCE UNBALANCE .....	21
8.3	MUTUAL CAPACITANCE .....	21
	8.3.1 Final Product 100 % Testing .....	21
8.4	CAPACITANCE DIFFERENCE .....	22
8.5	PAIR-TO-PAIR CAPACITANCE UNBALANCE .....	22
8.6	PAIR-TO-GROUND CAPACITANCE UNBALANCE .....	22
8.7	ATTENUATION .....	22
8.8	UNIT CROSSTALK .....	22
	8.8.1 Crosstalk Qualification Test .....	23
8.9	BETWEEN-COMPARTMENT CROSSTALK FOR SCREENED CABLES .....	24
	8.9.1. Requirements for all Applications .....	24
	8.9.2 Requirements for T-1C and Similar Applications .....	24
	8.9.3 Qualification Test Procedure .....	24
8.10	INSULATION RESISTANCE .....	25
8.11	CONDUCTOR-TO-CONDUCTOR DC PROOF TEST .....	25
8.12	CORE-TO-SHIELD DC PROOF TEST .....	25
8.13	CORE-TO-SCREEN DC PROOF TEST .....	26
8.14	SHIELD RESISTANCE .....	26
8.15	CONTINUITY OF METALLIC CABLE ELEMENTS .....	26
9.	<b><u>MECHANICAL REQUIREMENTS</u></b>	
9.1	COMPOUND FLOW .....	26
9.2	WATER PENETRATION .....	26
9.3	CABLE BEND TEST .....	27
	9.3.1 Cold Bend Test .....	27
	9.3.2 Hot Bend Test .....	27
9.4	CABLE IMPACT .....	27
9.5	CABLE TORSION TEST .....	27
10.	<b><u>GENERAL REQUIREMENTS</u></b>	
10.1	IDENTIFICATION AND MARKING .....	28
	10.1.1 Identification .....	28
	10.1.2 Length Marking .....	29
	10.1.3 Defective Pair Marking .....	28
	10.1.4 Communication Cable Identifier .....	29
10.2	END SEALING .....	29

**TABLE OF CONTENTS**

CONTENTS:	SECTION	PAGE
	10.3 INFORMATION ACCOMPANYING THE REEL .....	29
	10.4 OPTIONAL REQUIREMENTS .....	29
	10.4.1 Physical Reel Protection .....	29
	10.4.2 Pulling Eyes .....	29

**TABLES**

Table 1:	Specifications Referenced in This Standard .....	31
Table 2-1	Conductor Diameter.....	3
Table 2-2	Conductor Elongation .....	4
Table 3-1	Insulation Colors .....	5
Table 3-2	Conductor Adhesion .....	5
Table 3-3	Insulation Compression .....	6
Table 3-4	Color Code and Pair Designation .....	7
Table 4-1	Unit Binder Color Code .....	8
Table 4-2	Super-Unit Binder Color Code .....	8
Table 4-3	Color Code for Spare or Service Pairs.....	10
Table 6-1	Tape Thickness .....	14
Table 6-2	Composition Limits.....	15
Table 6-3	Gopher Damage Descriptions.....	16
Table 7-1	Jacket Thickness .....	18
Table 7-2	Jacket Material Requirements .....	19
Table 8-1	Conductor Resistance.....	21
Table 8-2	Resistance Unbalance .....	21
Table 8-3	Mutual Capacitance .....	21
Table 8-4	Capacitance Unbalance to Ground.....	22
Table 8-5	Attenuation.....	22
Table 8-6	PSELFEXT .....	23
Table 8-7	PSNEXT .....	23
Table 8-8	Conductor-to-Conductor DC Proof Test.....	25
Table 8-9	Core-to-Shield Dc Proof Test.....	26
Table 10-1	Pulling Eye Load Factors .....	30

**FIGURES**

Figure 1:	Forming of Steel Tape Overlap.....	34
Figure 2:	Sheath Adherence Sample Preparation.....	35

**TABLE OF CONTENTS**

CONTENTS: SECTION .....PAGE

**APPENDICES**

Appendix A: Standard Internally Screened (IS) Cable Pair Counts..... 36  
Appendix B: Metallic Tape Splice Breaking Strength, Percent Retention..... 37  
Appendix C Corrosion Resistance..... 38

**ANNEXES**

Informative Annex A: Product Guide for ANSI/ICEA S-84-608-2016..... A-1  
Informative Annex B: ICEA Telecommunication Cable Standards ..... B-1

**ACRONYMS, ABBREVIATIONS AND SYMBOLS**

ANSI	American National Standards Institute
ASTM	American Society for Testing and Materials
AWG	American Wire Gauge
°C	Degrees of Temperature, Celsius scale, Centigrade
dB	decibel
dc	Direct Current
EIA	Electronic Industries Alliance
ELFEXT	Equal Level Far-End Crosstalk
°F	Degrees of Temperature, Fahrenheit scale
ft	foot or feet
g	gram
ICEA	Insulated Cable Engineers Association
in	inch
ISO	International Organization for Standardization
kHz	kilohertz
kV	kilovolt
lb	pounds
lbf	pounds of force
MHz	Megahertz
m	meter
mm	millimeter
Mpa	megapascal
N	Newton
nF	nanofarad
NEXT	Near-End Crosstalk
NESC	National Electrical Safety Code
ns	nanoseconds
pF	picofarad
psi	pounds per square inch
PSELFEXT	power sum equal level far end crosstalk
PSNEXT	power sum near end crosstalk
rms	root mean square
$\alpha$	Attenuation

**ICEA STANDARD FOR  
FILLED, POLYOLEFIN INSULATED, COPPER CONDUCTOR  
TELECOMMUNICATIONS CABLE  
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 cable specifications covering products intended for normal outside plant use. The parameters covered provide material, construction, and performance requirements that are applicable to filled, polyolefin insulated and jacketed cables of all pair counts, including a variety of shield and jacket combinations and optional compartmental screening.

Because this Standard does not cover all details of individual cable design, it cannot be used as a single document for procurement of product. It is intended to be used 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 for filled, polyolefin insulated, copper conductor telecommunications cable. It provides alternative choices for type of insulation, type of filling compound, core lay-ups, color code, sheath design (shielding materials, single or double jackets, and jacket thicknesses), and screened or non-screened core.
- 1.3 **OPTIONS AND INFORMATION:** These cables are traditional outside plant (OSP) cables having a nominal mutual capacitance of 52 nF/km (83 nF/mile) at 1 kHz with attenuation and crosstalk characterized at discrete frequencies up to 6.3 MHz. For cables characterized above 6.3 MHz, refer to ICEA S-99-689, Broadband Twisted Pair Cable, Filled, Polyolefin Insulated, Copper Conductor.

This Standard is arranged in Sections covering one specific area of cable requirement and may be referenced as complete Sections or as individual paragraphs.