ANSI/ICEA S-89-648-2011 (R2019)

Standard for Aerial Service Wire

Approved as an American National Standard

ANSI Approval Date: August 29, 2019

ICEA S-89-648-2011 (R2019)

Standard for Aerial Serivce Wire

Published by

Insulated Cable Engineers Association, Inc.

www.icea.net

Approved July 20, 2011 by
Insulated Cable Engineers Association, Inc.

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This Standard was approved by ICEA on July 20, 2011. The members of the ICEA Communications Division, Working Group 648, who participated in this project, were:

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TABLE OF CONTENTS

CONTENTS: SECTION Page

1 GENERAL 1

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 CONDUCTORS 3

2.1 CCSR Requirements 3
2.1.1 Adherence of Copper 3
2.1.2 Copper Flexibility 4
2.1.3 Tensile Strength 4
2.1.4 Elongation 4
2.1.5 Micro-hardness of Copper 4
2.1.6 Factory Joints 4
2.2 NMR and MR Requirements 4
2.2.1 Conductor Elongation 4
2.2.2 Factory Joints 4

3 CONDUCTOR INSULATION 5

3.1 CCSR Insulation 5
3.1.1 Material 5
3.1.2 Patching 5
3.1.3 Wire Assembly 5
3.1.4 Marking 5
3.1.5 Insulation Physical Requirements 5
3.1.5.1 Adhesion to Conductor 5
3.1.5.2 Yield Strength and Elongation at Break 6
3.1.5.3 Resistance to Heat Exposure (Aging) 6
3.1.5.4 Compression Resistance 6
3.2 NMR Insulation 7
3.2.1 Material 7
3.2.2 Base Resins 7
3.2.3 Insulation Dimensions, Colors, and Splices 7
3.2.3.1 Insulation Dimensions 7
3.2.3.2 Insulation Colors 7
3.2.3.3 Splices 7

TABLE OF CONTENTS

CONTENTS: SECTION Page

3.2.4 Insulation Physical Requirements 7
3.2.4.1 Adhesion 7
3.2.4.2 Elongation 7
3.2.4.3 Compression Resistance 8
3.2.4.4 Cold Bend 8
3.2.4.5 Shrink back 8
3.2.4.6 Insulation Imperfections 8
3.2.4.7 Thermal Oxidative Stability 8
3.3 MR Insulation 8
3.3.1 Material 8
3.3.2 Base Resins 8
3.3.3 Insulation, Dimensions, Colors, and Splices 9
3.3.3.1 Insulation Dimensions 9
3.3.3.2 Insulation Colors 9
3.3.3.3 Splices 9
3.3.4 Insulation Physical Requirements 9
3.3.4.1 Adhesion 9
3.3.4.2 Elongation 9
3.3.4.3 Compression Resistance 9
3.3.4.4 Cold Bend 9
3.3.4.5 Shrinkback 9
3.3.4.6 Insulation Imperfections 10
3.3.4.7 Resistance to Heat Exposure (Aging) 10
3.3.4.8 Thermal Oxidative Stability 10

4 CORE CONSTRUCTION AND COLOR CODING 10

4.1 NMR Construction and Color Code 10
4.1.1 Twisted Pair Construction 11
4.1.2 Star-Quad Construction 11
4.2 Core Wrap 11
4.3 Binders 11
4.4 Ripcords 11
4.4.1 Hygroscopicity and Wicking 12
4.4.2 Jacket Slitting 12
4.4.3 Cold Weather Jacket Slitting 12

5 STRENGTH MEMBERS 12

5.1 NMR Strength Members 12
5.1.1 Splicing 12
5.2 MR Strength Members 12
5.2.1 Splicing 12

TABLE OF CONTENTS

CONTENTS: SECTION Page

6. SHIELDS 12
6.1 Shielding System 12
6.1.1 Single Tape Shield 13
6.1.2 Dual Tape Shield 13
6.1.3 Braid 13

7 JACKET 14

7.1 NMR Jacket Requirements 14

7.1.1 Materials 14
7.1.2 Patching 14
7.1.3 Wire Assembly 14
7.2 MR Jacket Requirements 15
7.2.1 Materials 15
7.2.2 Patching 15
7.2.3 Wire Assembly 15
7.2.4 Tensile Strength at Yield and Elongation at Break 16
7.2.5 Resistance to Heat Exposure (Aging) 16

8 ELECTRICAL REQUIREMENTS 16

8.1 CCSR Requirements 16
8.1.1 Continuity and Shorts 16
8.1.2 Conductor Resistance 16
8.1.3 Mutual Capacitance - Wet 16
8.1.4 Attenuation - Wet 16
8.1.5 Insulation Resistance - Wet 16
8.1.6 Dielectric Strength - Wet 17
8.1.7 Dielectric Strength - Dry 17
8.1.8 Fusing Coordination 17
8.1.9 Insulation Imperfections 17
8.2 NMR and MR Requirements 17
8.2.1 Continuity and Shorts 17
8.2.2 Conductor Resistance 17
8.2.3 Conductor Resistance Unbalance 17
8.2.4 Mutual Capacitance - Dry 17
8.2.5 Capacitance Unbalance - Pair to Pair 18
8.2.6 MR Capacitance Unbalance - Pair to Support Wire 19
8.2.7 Attenuation - Dry 19
8.2.8 Attenuation - Wet 19
8.2.9 Insulation Resistance 19
8.2.10 Dielectric Strength 19
8.2.11 Fusing Coordination 19

TABLE OF CONTENTS

CONTENTS: SECTION Page

8.2.12 Crosstalk 19

9 COMPLETED WIRE 20

9.1 Mechanical Requirements 20
9.1.1 Splicing 20
9.1.2 Impact Test - Unaged 20
9.1.3 Impact Test - Aged 20
9.1.4 Abrasion Resistance 21
9.1.5 Static Load (CCSR & NMR) 21
9.1.6 Completed Wire Shape and Dimensions (CCSR & NMR) 22
9.1.7 Elongation (NMR) 22
9.1.8 Plasticizer Compatibility (CCSR & NMR) 23
9.1.9 Compatibility of Jacket and Fiber Adhesive 23
9.2 Environmental Requirements 23
9.2.1 Cold Temperature Handling - Unaged (CCSR & NMR) ... 23
9.2.2 Cold Temperature Handling - Aged (CCSR & NMR) 23
9.2.3 Light Absorption (CCSR, NMR, MR) 24
9.2.4 Low Temperature Separation (CCSR) 24
9.2.5 Messenger Separation (NMR, MR) 24
9.2.6 Jacket Slitting (NMR, MR) 25
9.3 Flammability 25
9.4 National Electrical Code 25

10 MARKING AND PACKAGING - CSSR, NMR, & MR 25

10.1 Identification and Marking 25
10.1.1 Manufacturer Identification (NMR & MR) 25
10.1.2 Year of Manufacture (NMR & MR) 25
10.1.3 Alternate Identification (NMR & MR) 26
10.1.4 Jacket Marking (All Types) 26
10.1.5 Length Marking (All Types) 26
10.1.6 Jacket Ink Marking Durability 27
10.2 Packaging 27

CONTENTS: SECTION Page

LIST OF TABLES

Table 1-1 Wire Designations and Constructions 2
Table 4-1 Colors for Twisted Pair Construction 11
Table 4-2 Star-Quad Construction 11
Table 8-1 Mutual Capacitance 18
Table 8-2 Capacitance Unbalance 18
Table 8-3 Attenuation – Dry 19
Table 9-1 Minimum Static Load Requirements 21
Table 9-2 Preload and Load Values for Elongation Measurement 23
Table 10-1 Colors of Year Marker 26
Table 1 Specifications referenced in this Standard 28
Table D-1 Test Currents and Durations 33

LIST OF APPENDICES

Appendix A Wicking and Hygroscopicity Test 30
Appendix B Jacket Ripcord Test 32
Appendix C Binder Shrinkback Test 32
Appendix D Fusing Coordination Test 33
Appendix E Solution Method to Determine “Apparent” Absorption Coefficient for PVC Materials 35
Appendix F Durability Test for Indelible - Ink Printing/Marking 37

LIST OF FIGURES

Figure 3 - 1 18 or 18 1/2 AWG Copper Clad Steel Conductors 5
Figure 7 - 1 Typical NMR Wire Assemblies 14
Figure 7 - 2 Typical MR Wire Assembly 15
Figure A - 1 Wicking Test 31
Figure D - 1 Fusing Coordination Test Configuration 34

INFORMATIVE ANNEXES

Informative Annex A Product Guide A-1
Informative Annex B ICEA Telecommunication Cable Standards B-1

ACRONYMS, ABBREVIATIONS AND SYMBOLS
(Used in this Standard)

A	-	cross sectional area or apparent absorption coefficient
a	-	cross sectional area
ac	-	alternating current
ANSI	-	American National Standards Institute
ASTM	-	American Society for Testing and Materials
ASW	-	Aerial Service Wire
AWG	-	American Wire Gauge
CCSR	-	Copper Coated Steel Reinforced
CUPP	-	capacitance unbalance pair to pair
dc	-	direct current
EIA	-	Electronics Industries Alliance
ELFEXT	-	Equal Level Far End Crosstalk
FEXT -	-	Far End Crosstalk
ft	-	foot
hrs	-	hours
HV	-	Vickers hardness
ICEA	-	Insulated Cable Engineers Association
ISO	-	International Organization for Standardization
kft	-	kilofoot
kV	-	kilovolt
L	-	length of wire or cable for which electrical results are reported
l	-	path length of glass cell or liter
lbf	-	pound-force
l_m	-	length of wire or cable for which electrical measurements have been made
m	-	index for “measured”
MO	-	manufacturers option
MR	-	metallic reinforced
NEXT	-	Near End Crosstalk
NFPA 70	-	National Electrical Code (NEC)
NID	-	Network Interface Device
NIST	-	National Institute of Standards and Technology
NMR	-	non metallic reinforced
OIT	-	oxidative induction time
oz	-	ounce
psi	-	pounds per square inch
PVC	-	polyvinyl chloride
SI	-	International System of Units
T	-	temperature or percent transmission at a specific wavelength
THF	-	tetrahydrofuran
UL	-	Underwriters Laboratories
V_s	-	volume of stirring bar
W	-	weight of sample
yd	-	yard
^oC	-	degree Celsius

ACRONYMS, ABBREVIATIONS AND SYMBOLS
(Used in this Standard)

ºF	-	degree Fahrenheit
α	-	attenuation in dB/unit length
ρ	-	density
Ω	-	Ohm
°	-	degree
%	-	percent

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ICEA STANDARD FOR AERIAL SERVICE WIRE 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 normal outside plant use. The parameters covered provide material, construction, and performance requirements.

Because this Standard does not cover all details of individual wire 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 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.

The manufacturer and user of these wires should consider the selection and availability of appropriate hardware in the installation of these products.

1.2 SCOPE: This Standard covers material, mechanical and electrical requirements for Aerial Service Wire (ASW) intended for use principally in extending a telephone circuit from a distribution cable terminal to a subscriber's station protector or network interface device (NID).

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.

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Two types of electrical performance levels, with respect to mutual capacitance and attenuation, are specified, i.e. **Type 1** and **Type 2**.

Aerial Service Wire is intended to be self-supporting and shall contain strength members to accommodate the appropriate requirements of this standard. The self-supporting properties may be accomplished by utilizing copper coated steel conductors, a galvanized coated steel strength member or an integral or multiple layer(s) of approved compounds containing synthetic reinforcing members. There are two classes of wires with synthetic reinforcing members, i.e. Class A and Class B. Class A has decreased elongation and residual elongation allowance compared to Class B, which is beneficial for longer spans and in heavy loading areas. Table 1-1 lists the different wire designations and constructions used throughout this document.