

**STANDARD FOR**  
**BROADBAND AERIAL SERVICE WIRE**  
**AIRCORE, POLYOLEFIN INSULATED, COPPER CONDUCTOR**  
**TECHNICAL REQUIREMENTS**

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## ACRONYMS, ABBREVIATIONS AND SYMBOLS (Used in this Standard)

A	-	cross sectional area or apparent absorption coefficient
ac	-	alternating current
ACSR	-	Aluminum Conductor, Steel Reinforced
ANSI	-	American National Standards Institute
ASTM	-	American Society for Testing and Materials
AWG	-	American Wire Gauge
BB-ASW	-	broadband aerial service wire
CUPP	-	capacitance unbalance pair to pair
dc	-	direct current
EIA	-	Electronics Industries Alliance
ELFEXT	-	equal level far end crosstalk
FEXT	-	far end crosstalk
F		constant representing a specific frequency
f		variable representing any frequency in the applicable range
ft	-	foot, feet
hrs	-	hours
ICEA	-	Insulated Cable Engineers Association
in	-	inch
IOFEXT	-	input to output far end crosstalk
ISO		International Organization for Standardization
k1, k2, k3	-	coefficients to calculate the attenuation
kft	-	kilofoot
kV	-	kilovolt
L	-	length of wire for which electrical results are reported
l	-	path length of glass cell
lbf	-	pound-force
lm	-	length of wire for which electrical measurements have been made
Mb	-	megabit
MR	-	metallic reinforced
MΩ	-	meg Ohm
NEC	-	National Electrical Code
NEXT	-	near end crosstalk
NFPA	-	National Fire Protection Association
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
s	-	second
SI	-	International System of Units
T	-	temperature or percent transmission at a specific wavelength
THF	-	tetrahydrofuran

## **ACRONYMS, ABBREVIATIONS AND SYMBOLS (cont.) (Used in this Standard)**

TIA	-	Telecommunication Industry Association
TV	-	television
UL	-	Underwriters Laboratories
Vs	-	volume of stirring bar
W	-	weight of sample
yd	-	yard
°C	-	degree Celsius
°F	-	degree Fahrenheit
$\alpha$	-	attenuation per unit length
$\rho$	-	density
$\Omega$	-	Ohm
°	-	degree
%	-	percent

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## STANDARD FOR BROADBAND AERIAL SERVICE WIRE AIRCORE, POLYOLEFIN INSULATED, COPPER CONDUCTOR 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 to connect the broadband outside plant to the individual customer premises. 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 Broadband Aerial Service Wire (BB-ASW) of  $\leq 12$  pair, intended for use principally in extending a circuit from a broadband distribution cable terminal to a subscriber's network interface device (NID).
- 1.3 **OPTIONS AND INFORMATION:** This Standard provides alternative choices for type of insulation, type of sheath design (shielding materials, single or double jackets, and jacket type and thickness) and armoring.

The objective of this Standard is to also ensure compatibility with the Category 5e system requirements as specified in the TIA/EIA Standard 568-C.2 for commercial building telecommunications cabling, so that the standardized service wires can be used in a "Customer Owned Outside Plant" or as "Campus Cables", provided they have an appropriate pair count. However, due to specific requirements of service wires, not all requirements outlined in TIA/EIA Standard 568-C.2 can be met. It will be indicated in this standard, where such deviations occur.