



**ANSI/ICEA S-130-760-2021  
BROADBAND TWISTED PAIR CABLE,  
AIRCORE AND FILLED, POLYOLEFIN  
INSULATED, COPPER CONDUCTOR**



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*BROADBAND TWISTED PAIR CABLE, AIRCORE AND  
FILLED, POLYOLEFIN INSULATED, COPPER CONDUCTOR*

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INSULATED CABLE ENGINEERS ASSOCIATION, Inc.  
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## 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.

Requests for interpretation of this ICEA Standard must be submitted in writing to the Secretary of the Insulated Cable Engineers Association, Inc. The mailing address of ICEA Headquarters and a Contact link are provided on the ICEA web site - [www.icea.net](http://www.icea.net). An official written interpretation shall be provided. Suggestions for improvements in this Standard are welcomed by the association.

This Standard was developed by the ICEA Communications Division WG-760. This is the initial issue of the standard which is a consolidation of 2 existing standards, S-98-688 and S-99-689. In addition to this consolidation, an objective is to ensure compatibility with Category 5e as defined in ANSI/TIA 568.2. It was determined this would be better served by not including those requirements in this standard and incorporate the latest ANSI/TIA 568.2 transmission requirements by reference. It was approved by ICEA on March 3, 2020.

The members of the ICEA Communications Division, Working Group 760, who participated in this project, were:

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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 broadband outside plant use. The parameters covered provide material, construction, and performance requirements that are applicable to Aircore or Filled, polyolefin insulated and jacketed cables of limited pair counts, including a variety of shield and jacket combinations.

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 Aircore and Filled broadband twisted pair telecommunications cable with polyolefin insulated copper conductors.

Broadband cables as described in this Standard are primarily intended to supply broadband services from the remote switch to the customer premises. The remote switch in turn is normally supplied by fiber link from the central office. The reach of these systems is a function of the signal to noise ratio, deployed protocol and bit-rate, and may exceed 1000 m (3280 ft). These systems will allow the simultaneous transmission of regular telephone services, computer, fax and several TV channels. The TV services may be interactive or may be High Definition TV.

### 1.3 ACRONYMS, ABBREVIATIONS AND SYMBOLS

%	Percent
$\alpha$	Insertion Loss (Attenuation)
$\rho$	Density
AC	alternating current
ACRF	Attenuation-to-Crosstalk Ratio, Far-End (formerly ELFEXT)
ANSI	American National Standards Institute
ASQC	American Society for Quality Control
ASTM	American Society for Testing and Materials
ATG	Absorbent thixotropic gel
AWG	American Wire Gauge
CAS	Chemical Abstract Service
DC	Direct Current
EIA	Electronics Industries Alliance
$f$	Frequency in Megahertz
FEXT	Far End Crosstalk
ft	foot, feet