



ANSI/NEMA S-116-732-2019

American National
Standard for Category 6
and 6A, 100 Ohm,
Individually Unshielded
Twisted Pairs, Indoor
Cables (With or Without
an Overall Shield) for
Use in LAN
Communication Wiring
Systems



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*Standard for Category 6 and 6A, 100 Ohm, Individually Unshielded Twisted Pairs, Indoor Cables
(With or Without an Overall Shield) for Use in LAN Communication Wiring Systems*

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Foreword

This standard publication sponsored and published by ICEA and approved by NEMA on cables to be used for voice, data, video, and other high-frequency signal transmission.

This Standard is published in the public interest and are intended to promote product uniformity and quality throughout the industry. The existence of this publication does not, in any respect, preclude the manufacture or use of products not conforming to the Standard.

Compliance with this Standard may require the use of an invention covered by patent rights. By publication of this document, no position is taken with respect to the validity of this claim or of any patent rights in connection therewith. The patent holder has, however, filed a statement of willingness to grant a license under these rights on reasonable and non-discriminatory terms and conditions to applicants desiring to obtain such a license. Details may be obtained from the publisher.

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 website, 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 Working Group-732. It was approved by ICEA on September 30, 2019. The Members of the ICEA Communications Cable Division, Working Group-732, who participated in this project, were:

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Radix
Wire & Cable, LLC
RSCC Wire & Cable Group
Rubadue Wire Co., Inc.
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Southwire Company
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WireMasters, Inc.

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East Granby
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Madison
Carrollton
Harrisburg
Ramsey
Saltville
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Section 1 GENERAL

1.1 PURPOSE

The purpose of this Standard is to supersede ANSI/ICEA S-102-700 and NEMA WC 66 and to establish generic technical requirements that may be referenced by individual telecommunications cable specifications covering products intended for use in commercial and residential structured telecommunications cabling systems. 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 the procurement of a 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 thermoplastic insulated and jacketed, copper conductor, individually unshielded twisted pairs, with or without overall shield intended for use as horizontal cables, backbone cables, or in the manufacture of patch cords. Depending upon the application and system requirements, this Standard provides choices for materials and flammability ratings.

This Standard covers the minimum performance requirements for cables up to four pairs, with transmission characteristics specified up to 250 MHz for Category 6 cables and up to 500 MHz for Category 6A cables.

These Category cables are intended for voice, text, data, video, and image transmission as well as low voltage power supply (POE & POE+). The cables are categorized by electrical transmission characteristics based on existing system requirements and projected application needs determined by IEEE 802.3.

The cables included are intended to conform to the cabling system architecture and design, as specified in ANSI/TIA/568-C.2. Applicable definitions, test methods, and performance requirements are included.

For additional Categories, see companion ICEA Standards S-90-661 for Categories 3, 5, 5e, and S-118-746 for Category 8.

The products covered in this Standard should conform to the requirements of Part 68 of the FCC rules and regulations.

The performance requirements contained in this document are for cables as manufactured. Link and channel requirements are beyond the scope of this document.