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

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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.

This standards publication has been jointly developed by the Communications Division (members as listed below) of the Insulated Cable Engineers Association and the Premise Wiring Subcommittee (members as listed below) of the High Performance Wire and Cable Section of NEMA in close coordination between manufacturers, users, third party certifying agencies, and others having specialized experience. The Communication Division of the Insulated Cable Engineers Association and the Premise Wiring Subcommittee of the High Performance Wire and Cable Section of NEMA periodically reviews this standards publication for any revisions necessary to keep it up to date. Proposed revisions or comments should be submitted to either:

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NEMA section approval of this standard does not necessarily imply that all section members voted for its approval or participated in its development.

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Section 1: General

1.1 PURPOSE:

The purpose of this standard publication is to supersede ANSI/ICEA S-102-700 and NEMA WC 66 standard 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 procurement of 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 standards publication 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 standards publication 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 and 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. The material, mechanical, and physical characteristics for these cables are covered under UL 444/CSA 22.2 No. 214.

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

The products covered in this standard should conform to the requirements of Part 68 of the FCC rules and regulations as well as the applicable article(s) of the *National Electrical Code®* and/or other national and local codes and safety standards.

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