



ANSI/ICEA S-90-661-2021

**STANDARD FOR CATEGORY 3 AND 5E
INDIVIDUALLY UNSHIELDED TWISTED PAIRS,
INDOOR CABLES (WITH OR WITHOUT AN OVERALL
SHIELD) FOR USE IN GENERAL PURPOSE AND LAN
COMMUNICATION WIRING SYSTEMS**

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INSULATED CABLE ENGINEERS ASSOCIATION, Inc.
www.icea.net

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American National Standards Institute

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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 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.

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

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 - 661. The change from 2012 version of 661 include the removal of Cat 5 requirements as they are superseded by Cat 5e and editorial style changes to be consistent with current ICEA standards. It was approved by ICEA on June 9, 2021. The members of the ICEA Communications Cable Division, WG - 661, who participated in this project, were:

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Section 1 GENERAL

1.1 PURPOSE

This Standard establishes generic technical requirements that may be referenced by individual telecommunications cable specifications covering products intended for normal indoor premises use in the wiring systems of communications users. 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 Standard covers mechanical, electrical and flammability requirements for thermoplastic insulated and jacketed, copper conductor, individually unshielded twisted pair indoor cables, with or without an overall shield, intended primarily for use as horizontal cables, backbone cables, or patch cordage. Depending upon the application and system requirements, this Standard provides choices for materials, transmission characteristics and flammability ratings.

This Standard covers the minimum transmission performance requirements for the following two Categories of cable based on existing system requirements and projected application needs. Multi-pair cables, conforming to the generic designation, ARxM, are not covered by this specification. See instead, ICEA S-103-701.

Category 3: Intended for voice, text, data, video and image transmission with transmission characteristics specified for frequencies up to 16 MHz.

Category 5e: Intended for voice, text, data, video and image transmission with enhanced transmission characteristics specified for frequencies up to 100 MHz.

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

The cables included are intended to conform to the cabling system architecture and design specified in ANSI/TIA-568.2. Applicable definitions, test methods, and performance requirements are included. The performance requirements contained in this document are for cables as manufactured. Link and channel requirements are beyond the scope of this document.