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STANDARD FOR INDOOR OPTICAL CABLE

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FOREWORD

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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 - 596. It was approved by ICEA on September 14, 2021. The members of the ICEA Communications Cable Division, WG - 596, who participated in this project, were:

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This issue replaces the previous issue of ANSI/ICEA S-83-596-2015 Standard for Indoor Optical Fiber Cable. Major changes in this revision include the following:

- Updated text on hazardous substances requirements
- Updated tables in Part 2 pertaining to fiber cross-references
- Updated text in 7.8 for length marking accuracy requirements
- Updated text pertaining to ribbons based on 200 µm fiber
- Addition of Annex B for weatherized indoor cable requirements

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Part 1
INTRODUCTION

1.1 SCOPE

This Standard covers fiber optic communications cables intended for use in the buildings of communications users. Materials, constructions, and performance requirements are included in the Standard, together with applicable test procedures. Refer to Annex D for optical fiber communications cables intended for indoor-outdoor use.

Refer to other ICEA optical cable product Standards which may have relevance to cables of this Standard:

- ICEA S-87-640 for optical fiber cables intended for general outside plant use
- ICEA S-104-696 for optical fiber cables intended for indoor/outdoor use.
- ICEA S-110-717 for optical fiber cables intended for aerial, duct, and buried outdoor and indoor/outdoor drop applications
- ICEA S-115-730 for optical fiber cables intended for Multiple Dwelling Unit (MDU) applications
    - Note that the MDU cable application space may overlap that of drop cables, including applications providing drops to single-family homes or businesses.
- ICEA S-120-742 for hybrid optical fiber cables intended for use in limited power circuits.
- ICEA S-122-744 for optical fiber cables intended for installation via microducts.

Products covered by this standard are intended only for operation under conditions normally found in communication systems. Typically, these products are installed both in exposed areas (surface mounted to walls or building baseboards or in non-stationary configurations) and in concealed areas (within walls, attics, etc.), with or without external protection (such as conduit), depending upon product type and specific use. These products normally convey communications signals (voice, video, data, etc.) from place to place within a building. Products covered by this Standard may be factory terminated with connectors or splicing modules.

When a hybrid cable (a cable with both optical fibers and metallic conductors) is required, the applicable metallic conductor requirements shall be defined by other standards. See Annex C for a list of applicable ICEA Standards. For power-limited hybrid cables, ICEA 742 defines the optical fiber and metallic conductor cable requirements. For other hybrid cables, the requirements shall be as established by agreement between the end user and the cable manufacturer.

In cases where outside exposure is limited (i.e. less than 10 meters), a weatherized cable may be derived from an indoor cable design (backbone or interconnect). These cables are covered in more detail in Annex D as noted above.

MDU cabling is an emerging system topology for FTTx applications. Cables covered in this standard may be applicable for significant parts of the MDU topology. Please note ICEA 730 as noted above.

The normal temperature ranges for cables covered by this Standard are listed in Table 1-1: