



ANSI/ICEA S-122-744

OPTICAL FIBER OUTSIDE PLANT  
MICRODUCT CABLES



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MICRODUCT CABLES***

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IHS  
15 Inverness Way East  
Englewood, CO 80113-5776 USA  
Telephone: (800) 854-7179  
[www.global.ihs.com](http://www.global.ihs.com)

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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 only properly trained personnel using suitable equipment will perform manufacture, testing, installation, and maintenance of cables defined by this Standard.

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The members of the ICEA Communications Cable Section, Working Group 744, who participated in this project, were:

Jim Register, Chairman and Editor

G. Dorna  
D. Fausz  
N. Hatch  
M. Kinard  
D. Kozischek  
J. Morrow

D. Parke  
J. Pavlicek  
J. Quinn  
J. Ryan  
T. Schmalzigaug  
R. Stanko

M. Stover  
R. Stevens  
H. Toland  
P. VanVickle

This issue replaces the previous issue, ANSI/ICEA S-122-744-2016, *Standard for Optical Fiber Outside Plant Microduct Cables*. Major changes in this revision include the following:

- Updated text on hazardous substances requirements.
- Updated general fiber out reference previously contained in Section 2.1 with specific fiber requirements.
- Addition of new fiber types and reformatting of the fiber out-references.
- Addition of OM5 multimode fiber.
- Addition of 200 micron fiber.
- Addition of descriptive text on easily-strippable semi-tight buffer.
- Updated section 6.3 for general length marking accuracy requirements.
- The temperature precision for testing has been changed to  $\pm 3$  °C from  $\pm 2$  °C.
- Updated text on water penetration test.
- Partially bonded ribbons have been accommodated in the ribbon requirements.
- Annex C, the listing of ICEA Standards, is deleted. Refer to the ICEA web site for a current listing.
- Addition of Installation Performance Test

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## PART 1

### INTRODUCTION

#### 1.1 Scope

##### 1.1.1 Products

This Standard covers performance requirements for microduct optical fiber outside plant cables intended for installation in microducts, typically by blowing using commercially available equipment intended for this application. Products covered by this Standard are intended only for operation under conditions normally found in outside plant communication systems. Typically, these products are installed in protected ducts but may be also run for short distances in both exposed areas and in concealed areas (such as handholes), with or without external protection. Due to the thinner jacket usually associated with microduct cables, they typically do not have the jacket durability to be pulled into conduit for long distances even at or below the rated tensile strength. Additionally, the impact resistance, compression resistance and tensile strength requirements for cables covered by this Standard may be significantly lower than those for conventional outside plant cables covered by ICEA S-87-640. Therefore, installation of cables covered by this Standard by techniques such as capstan pulling, aerial lashing, trenching, and direct burial is not recommended.

##### 1.1.2 Applications Space

Products covered by this Standard are intended for operation only under conditions normally found in communications systems. These products normally convey communications signals (voice, video, and data) including but not limited to point-to-point or point-to-multipoint installations. Products covered by this Standard may be factory terminated with connectors or splicing modules.

##### 1.1.3 Temperature Ranges

The normal temperature ranges for cables covered by this Standard are given in Table 1-1.

Two temperature performance levels are specified for this Standard.

- Standard temperature performance - This level is considered to be in line with normal outside plant performance levels. This category will ensure performance in scenarios that include transitions between unconnected microduct systems or between a microduct system and some other protective structure, such as a conduit or tray.
- Moderate temperature performance – This level is characterized for installation in moderate climates or when the cable will not be exposed to short transitions below -30 °C (-22 °F).

If “Moderate Temperature Performance” is specified, the performance level should be clearly stated. This may be done using product specification sheets, customer quotations, or similar means.