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Standard for
Installing and Testing
Fiber Optic Cables

NEIS



Published by
National Electrical
Contractors Association



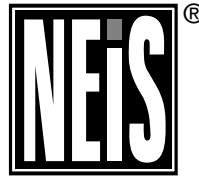
Jointly developed with
The Fiber Optic Association



NECA/FOA 301-2004

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**An American
National Standard**



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Table of Contents

Foreword	v
1. Scope	1
1.1 Products and Applications Included	1
1.2 Regulatory and Other Requirements	1
1.3 Fiber Optic Topologies	1
2. Definitions, Abbreviations, and Acronyms	3
2.1 Definitions	3
2.2 Abbreviations and Acronyms	6
3. Safety and Cautions for Fiber Optic Installation	7
3.1 Fiber Optic Installation Safety	7
3.2 Cleanliness	8
4. Installation Requirements	9
4.1 General Guidelines	9
4.2 Support Structures	9
4.3 Removal of Abandoned Cable	9
4.4 Firestopping	9
4.5 Grounding and Bonding	10
5. Fiber Optic Cables	11
5.1 Cable Types	11
5.2 Flammability Rating—Cable Ratings and Markings	12
5.3 Fiber Optic Cable Color Codes	12
5.4 Installing Fiber Optic Cable	12
5.5 Cable Plant Hardware	13
5.6 Use of Cable Ties	14
6. Fiber Optic Termination	15
6.1 General Guidelines	15
6.2 Fiber Optic Connections	15
6.3 Splicing	17
7. Testing the Installed Fiber Optic Cable Plant	18
7.1 General Guidelines	18
7.2 Continuity Testing	18

NECA/FOA 301 Standard for Installing and Testing Fiber Optic Cables

7.3	Insertion Loss	18
7.4	OTDR Testing	18
8.	Administration, Management, and Documentation	19
8.1	Guidelines	19
	Annex A: Calculating the Loss Budget for a Fiber Optic Cable Plant	20
	Annex B: Field Test Requirements	21
	Annex C: Reference Standards	23

(This foreword is not a part of the standard)

Foreword

National Electrical Installation Standards™ are designed to improve communication among specifiers, purchasers, and suppliers of electrical construction services. They define a minimum baseline of quality and workmanship for installing electrical products and systems. *NEIS®* are intended to be referenced in contract documents for electrical construction projects. The following language is recommended:

Fiber optic cables shall be installed in accordance with NECA/FOA 301, *Standard for Installing and Testing Fiber Optic Cables*.

Use of *NEIS®* is voluntary, and neither the National Electrical Contractors Association nor the Fiber Optic Association assumes any obligation or liability to users of this publication. Existence of a standard shall not preclude any member or nonmember of NECA or FOA from specifying or using alternate construction methods permitted by applicable regulations.

The installation and maintenance practices recommended by this publication are intended to comply with the edition of the National Electrical Code (NEC) in effect at the time of publication. Because they are quality standards, *NEIS®* may in some instances go beyond the minimum requirements of the NEC. It is the responsibility of users of

this standard to comply with state and local electrical codes when installing electrical products and systems.

Suggestions for revisions and improvements to this standard are welcome. They should be addressed to:

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1. Scope

1.1 Products and Applications Included

This standard covers fiber optic cabling installed indoors (premises installations) with the addition of outside plant (OSP) applications involved in campus installations where the fiber optic cabling extends between buildings.

1.2 Regulatory and Other Requirements

All information in this publication is intended to comply with the following:

ANSI/NFPA 70, *National Electrical Code*

ANSI/IEEE C2, *National Electrical Safety Code*

ANSI/TIA/EIA-568-D, *Commercial Building Telecommunications Cabling Standard*

ANSI/TIA/EIA-569-A06, *Commercial Building Standard for Telecommunications Wiring Pathways and Spaces*

ANSI/TIA/EIA-606-A-02, *Administration Standard for Commercial Telecommunications Infrastructure*

ANSI/TIA/EIA-607, *Commercial Building Grounding and Bonding Requirements for Telecommunications*

NECA/BICSI 568-2001, *Standard for Installing Commercial Building Telecommunication Cabling* (ANSI)

Only qualified persons familiar with installation and testing of fiber optic cabling should perform the work described in this publication.

Other *National Electrical Installation Standards* provide additional guidance for installing particular

types of electrical products and systems. A complete list of *NEIS* is provided in Annex C.

1.3 Fiber Optic Topologies

In premises applications, fiber optic cables can be used as backbone cabling in a standard structured cabling network, connecting network hardware in the computer room/main cross connect to local network hardware in a telecom closet.

In an optimized fiber optic network, cables go directly to the work area with only passive connections in the links. This architecture is called "centralized fiber optic cabling." Backbone cables typically contain

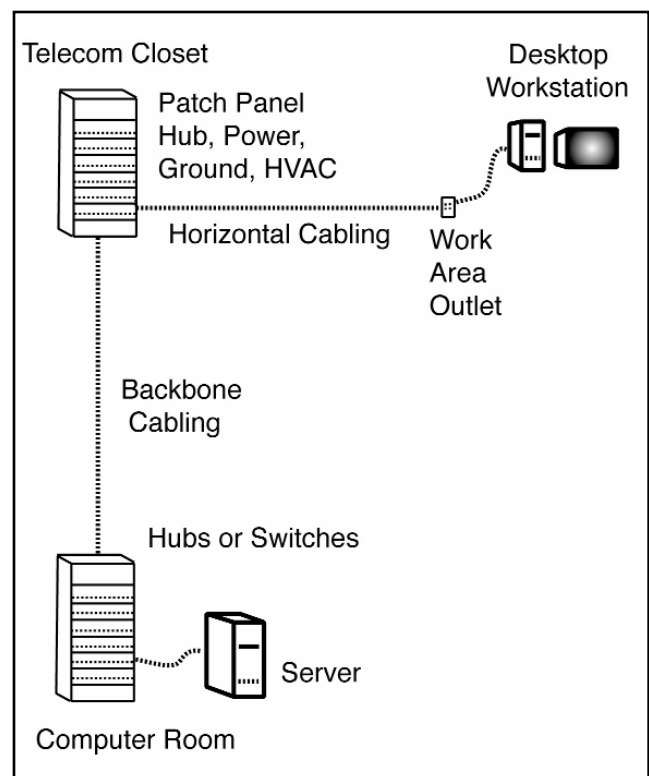


Figure 1. Structured cabling architecture per TIA/EIA 568.