



UL 2024

Underwriters Laboratories Inc. Standard for Safety

Signaling, Optical Fiber and
Communications Raceways
and Cable Routing Assemblies



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UL Standard for Safety for Signaling, Optical Fiber and Communications Raceways and Cable Routing Assemblies, UL 2024

Fourth Edition, Dated March 21, 2011

SUMMARY OF TOPICS

This revision of ANSI/UL 2024 includes:

1. A change in the title of the Standard from "Optical Fiber and Communication Cable Raceway" to "Signaling, Optical Fiber and Communications Raceways and Cable Routing Assemblies."

2. Correction of a misspelled word in Paragraph 1.1

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UL 2024

**Standard for Signaling, Optical Fiber and Communications Raceways and
Cable Routing Assemblies**

First Edition – December, 1995
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Fourth Edition

March 21, 2011

This ANSI/UL Standard for Safety consists of the Fourth Edition including revisions through April 4, 2011

The most recent designation of ANSI/UL 2024 as an American National Standard (ANSI) occurred on March 21, 2011. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, Title Page, or effective date information.

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APPENDIX A – GUIDE TO MOUNTING METHODS

A1 Introduction A1

A2 Method A1

INTRODUCTION

1 Scope

1.1 These requirements cover the following types of signaling raceways, optical fiber raceways and communication raceways and fittings designed for use with signaling, optical fiber and communications and CATV cables and cable routing assemblies and fittings designed for use with optical fiber, communications, CATV, and network-powered broadband communications cables in accordance with the NFPA 70, National Electrical Code, and NFPA 76, Standard for the Fire Protection of Telecommunications Facilities:

- a) Plenum – Evaluated for installation in other spaces used for environmental air in accordance with the National Electrical Code as well as riser and general purpose applications.
- b) Riser – Evaluated for installation in risers in accordance with the National Electrical Code as well as general purpose applications.
- c) General Use – Evaluated for general purpose applications only.

1.1 revised April 4, 2011

2 Glossary

2.1 For the purpose of this Standard the following definitions apply:

2.2 CABLE ROUTING ASSEMBLY – A single channel or connected multiple channels, as well as associated fittings, forming a structural system that is used to support, route and protect high densities of wires and cables, typically communications wires and cables, optical fiber and data (Class 2 and Class 3) cables associated with information technology and communications equipment.

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2.3 COMMUNICATIONS RACEWAY – An enclosed channel of nonmetallic materials designed for holding communications wires and cables in plenum, riser and general-purpose applications.

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2.4 OPTICAL FIBER RACEWAY – An enclosed channel of nonmetallic materials designed for holding optical fiber cables in plenum, riser and general-purpose applications.

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2.5 RACEWAY – An enclosed channel of metal or nonmetallic materials designed expressly for holding wires, cables, or busbars, with additional functions as permitted in this *Code*. Raceways include, but are not limited to, rigid metal conduit, rigid nonmetallic conduit, intermediate metal conduit, liquid-tight flexible conduit, flexible metallic tubing, flexible metal conduit, electrical nonmetallic tubing, electrical metallic tubing, underfloor raceways, cellular concrete floor raceways, cellular metal floor raceways, surface raceways, wireways, and busways.

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3 Units of Measurement

3.1 Values stated without parentheses are the requirement. Values in parentheses are explanatory or approximate information.

4 References

4.1 Any undated reference to a code or standard appearing in the requirements of this standard shall be interpreted as referring to the latest edition of that code or standard.

CONSTRUCTION

5 General

5.1 The interior surfaces of signaling optical fiber raceways and communications raceways and cable routing assemblies shall be free from burrs and sharp edges that can damage cables. Compliance is to be determined by visual examination of the interior surfaces.

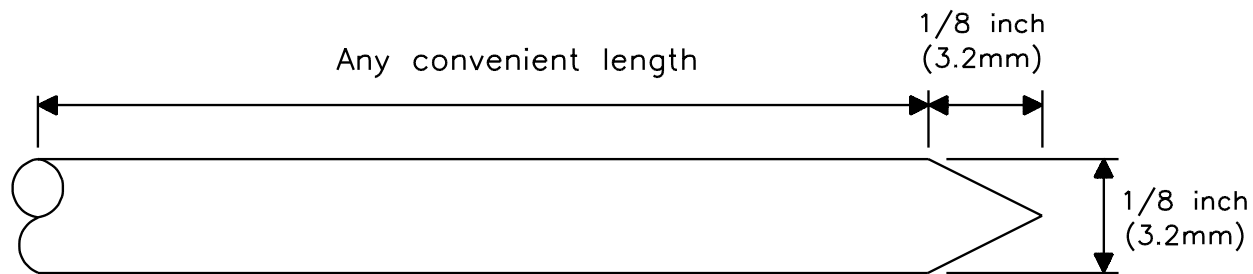
5.2 The distinguishing feature between raceways and cable routing assemblies is that raceways are enclosed and cable routing assemblies may or may not include enclosed sections. See 6.1.

6 Raceway System

6.1 A raceway system shall enclose the cables installed therein and, when installed as intended, shall comply with the following:

- a) There shall not be any openings that permit the probe illustrated in Figure 6.1 to be inserted for a distance greater than 1/8 inch (3.2 mm), and
- b) The total area of openings shall not exceed 15 percent of the area of the surface in which the openings are located.

Figure 6.1
Accessibility Probe



SM1236B

7 Raceway and Fitting Covers

7.1 A two-piece raceway or fitting shall have provisions for securing the cover to the base. A raceway cover shall be securely held in place by continuous grooves, flanges, or similar construction at intervals not exceeding 4 feet (1.2 m).

8 Fittings

8.1 Signaling raceway, optical fiber raceway and communications raceway fittings are investigated in combination with a specific raceway system. They are not intended to be interchangeable with other conduit or raceway systems as the raceways may differ in their inside and outside diameters.

8.2 Cable routing assembly fittings shall be evaluated in combination with a specific cable routing assembly system. They are not intended to be interchangeable with other conduit or cable routing assembly systems since the dimensions of the cable routing assemblies may differ.

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PERFORMANCE

9 General

9.1 Signaling raceways, optical fiber raceways and communications raceway and fittings, and cable routing assemblies and fittings are to be subjected to the tests summarized in Table 9.1.

Exception: Raceway fittings and cable routing assembly fittings molded of the same material that has previously been subjected to the appropriate flame test in a length of optical fiber raceway and communication cable raceway need not be subjected to a flame test.

Table 9.1
Test programs for signaling, optical fiber raceways, and communications cable raceways and cable routing assemblies

Construction	Test	Section
Rigid Raceways and Cable Routing Assemblies	Identification of Materials	10
	Plenum, Riser or General Use Flame	11, 12, 13
Pliable Raceways ^a	Identification of Materials	10
	Plenum, Riser or General Use Flame	11, 12, 13
	Heat Shock	14
	Cold Bend	15
Pliable Cable Routing Assembly	Identification of Materials	10
	Plenum, Riser or General Use Flame	11, 12, 13
Raceway and Cable Routing Assembly Fittings	Identification of Materials	10
	Plenum, Riser or General Use Flame	11, 12, 13
^a A pliable raceway or cable routing assembly is a raceway or cable routing assembly that is intended to be bent by hand without the use of a tool.		

10 Identification of Materials

10.1 The specific gravity and infrared spectrum of the insulating materials used in the raceways, cable routing assemblies and fittings shall be determined in accordance with the methods described in the Standard for Polymeric Materials – Short Term Property Evaluations, UL 746A.