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**NATIONAL STANDARD OF THE
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Replacing GB/T 7424.2-2008

**Optical fibre cable generic specification - Part 24: Basic optical
cable test procedures. Electrical test methods**

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Foreword

GB/T 7424 is divided into the following 9 parts:

---Optical Cable General Specification Part 1: General;

---General Specification for Optical Cables Part 20: General rules and definitions of basic test methods for optical cables;

---General Specification for Optical Cables Part 21: Basic Test Methods for Optical Cables, Mechanical Performance Test Methods;

---General Specification for Optical Cables Part 22: Basic Test Methods for Optical Cables, Environmental Performance Test Methods;

---General Specification for Optical Cables Part 23: Basic Test Methods for Optical Cables Test Methods for Optical Cable Components;

---General Specification for Optical Cables Part 24: Basic Test Methods for Optical Cables Electrical Test Methods;

---Optical Cable Part 3: Sectional Specification for Outdoor Optical Cable;

---Optical Cable Part 4: Sectional Specification Optical Fiber Composite Overhead Ground Wire;

---Optical Cable Part 5: Sectional Specification for Miniature Optical Cable and Optical Fiber Unit for Air Blown Installation:

This part is Part 24 of GB/T 7424:

This section was drafted in accordance with the rules given in GB/T 1:1-2009:

GB/T 7424:20~GB/T 7424:24 jointly replace GB/T 7424:2-2008 "General Specification for Optical Cable Part 2: Optical Cable Basic

experiment method": This part replaces Chapter 36 and Chapter 37 of GB/T 7424:2-2008: This part and GB/T 7424:2-2008

Compared with Chapter 36, the main technical changes are as follows:

---Added the requirements for the length of the tested fiber in the short-circuit current test H1 (see 2:2:1);

---Added the content to be specified in the short-circuit current test H1 "Allowable fiber additional attenuation value" (see 2:6:1 and 2:6:2);

---Added the requirements for the length of the specimen in the lightning test H2 (see 3:3);

--- Method H3 "Electrical continuity test of optical cable metal components" has been added (see Chapter 4):

This part uses the redrafting method to modify and adopt IEC 60794-1-24:2014 "Optical Cable Part 1-24: General Specification Optical Cable Basic Test

Test Method Electrical Performance Test Method":

Compared with IEC 60794-1-24:2014, this part has more structural adjustments: Appendix A lists this part and IEC 60794-1-24:

The:2014 chapter number comparison list:

The technical differences between this part and IEC 60794-1-24:2014 and the reasons are as follows:

--- 2:2:1 Added the requirements for the length of the tested fiber in the short-circuit current test H1;

---Added an introductory sentence in 2:3;

--- 2:6:1 and 2:6:2 added the "allowable fiber additional attenuation value" in the short-circuit current test H1 "details to be specified";

---3:3 The requirements for the length of the sample in the lightning test H2 are added;

--- In 3:7, the "Allowable Optical Fiber Additional Attenuation Value" in "Details to be Specified" in Lightning Test H2 is added:

--- 4:3 adds the electrical continuity test of the metal components of the optical cable H3 "Equipment" in the "multimeter" and "low voltage circuit test lamp"

Power requirements";

--- 4:4 adds the detailed steps of the H3 "procedure" of the electrical continuity test of optical cable metal components:

This section has made the following editorial changes:

--- Change the standard name to "General Specification for Optical Cables Part 24: Basic Test Methods for Optical Cables, Electrical Test Methods:"

Please note that certain contents of this document may involve patents: The issuing agency of this document is not responsible for identifying these patents:

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1 Scope

This part of GB/T 7424 specifies the purpose, samples, equipment, procedures, requirements and requirements of each test method for the electrical performance test of optical cables:

Specify details, etc:

This Part applies to optical cables and optical hybrid cables used in communication equipment and devices using similar technologies: It also applies to optical fiber units,

Micro-tube fiber unit, etc:

2 Method H1: Short-circuit current test (applicable to OPGW and OPAC)

2:1 Purpose

This test is used to evaluate the characteristics of optical fiber composite overhead ground wire (OPGW) under typical short-circuit current, or to evaluate the short-circuit current on suspension wires:

The impact of current on the performance of attached optical cable (OPAC):

2:2 Sample

2:2:1 OPGW test

2:2:1:1 Two-sample test method

A typical setup with two samples is shown in Figure 1:

Two specimens with a length of at least 10m should be fixed at both ends with suitable hardware: In sample A, one or more thermocouples should be plugged into the light

On the surface of the unit, monitor the temperature of the light unit: In sample B, one or more thermocouples should be attached to the metal wire of OPGW to monitor

OPGW temperature: The light source and optical power meter connected to each end of the tested fiber of sample B should be used to monitor the change of fiber attenuation: Optical fiber

The test length should be at least 100m (when the fiber length is less than 100m, the fiber should be connected in series to meet the test fiber length test):

2:2:1:2 Single specimen test method

Specimens with a length of at least 10m should be fixed at both ends with suitable hardware: One or more thermocouples should be inserted through the twisted layer of OPGW

Go to the surface of the light unit and monitor the temperature of the light unit: One or more thermocouples should be attached to the metal wire of the OPGW to monitor the OPGW temperature

degree: The light source and optical power meter connected to each end of the fiber under test should be used to monitor the changes in the fiber attenuation: The tested length of the fiber should be at least

100m (when the fiber length is less than 100m, the fiber should be connected in series to meet the test fiber length):

2:2:2 OPAC test

The typical device used to test OPAC is shown in Figure 2:

The OPAC sample with a length of at least 10m is attached to the hanging wire agreed by the supplier and the buyer with suitable hardware: Multiple thermocouples should be attached to the hanging

Online, record the temperature reached during the test: In addition, the light source and optical power meter should be connected to each end of the tested fiber of OPAC to monitor the fiber

Attenuation changes: The tested length of the fiber should be at least 100m (when the length of the fiber is less than 100m, the fiber should be connected in series to meet the requirements