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IEEE Standard for Testing and Performance of Hardware for All-Dielectric Self-Supporting (ADSS) Fiber Optic Cable

IEEE Power and Energy Society

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Power System Communications Committee

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3 Park Avenue
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USA

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IEEE Standard for Testing and Performance of Hardware for All-Dielectric Self-Supporting (ADSS) Fiber Optic Cable

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Abstract: Hardware performance, test requirements, procedures, and acceptance criteria for an all-dielectric self-supporting overhead cable with optical fibers are covered in this standard. Functional requirements, such as electrical, mechanical, optical fiber, environmental and test requirements related to design, installation, in-service, and maintenance, including routine tests, are covered.

Keywords: ADSS, all-dielectric self-supporting fiber optic cable, fiber optic cable, IEEE 1591.2™, laboratory tests, maximum installation tension, maximum rated cable load, maximum rated design tension

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Introduction

This introduction is not part of IEEE Std 1591.2-2017, IEEE Standard for Testing and Performance of Hardware for All-Dielectric Self-Supporting (ADSS) Fiber Optic Cable.

IEEE Std 1591.2 is the hardware test standard for all-dielectric self-supporting (ADSS) fiber optic cable applications. Hardware for ADSS is identified as hardware in direct contact with the ADSS cable in an ADSS cable and hardware system. This test standard provides standardization of terminology, performance, and test requirements for ADSS hardware. This hardware standard compliments IEEE Std 1222™[1] for ADSS cable, as many of the terms and tests requirements are common for consistency and testing efficiency.

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[1]Information on references can be found in Clause 2.

Contents

IEEE Standard for Testing and Performance of Hardware for All-Dielectric Self-Supporting (ADSS) Fiber Optic Cable

1. Overview

1.1 Scope

This standard covers the construction, mechanical and electrical performance, test requirements, environmental considerations, and acceptance criteria for qualifying hardware for use with all-dielectric self-supporting (ADSS) fiber optic cable.

1.2 Purpose

The purpose of this standard is to establish performance and testing specifications for hardware used on ADSS systems in order to standardize testing, simplify procurement specifications, and assure product quality.

2. Normative references

The following referenced documents are indispensable for the application of this document (i.e., they shall be understood and used, so each referenced document is cited in text and its relationship to this document is explained). For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments or corrigenda) applies.

ASTM A153/A153M, Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.[2]

ASTM B117, Standard Practice for Operating Salt Spray (Fog) Apparatus.

AWS D1.1/D1.1M, Structural Welding Code—Steel.

IEC 61897, Overhead Lines—Requirements and Tests for Stockbridge Type Aeolian Vibration Dampers.[3]

IEEE Std 664™, IEEE Guide for Laboratory Measurement of the Power Dissipation Characteristics of Aeolian Vibration Dampers for Single Conductors.[4,5]

[2]ASTM publications are available from the American Society for Testing and Materials (http://www.astm.org/).
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