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IEEE Standard for Qualifying Hardware for Helically-Applied Fiber Optic Cable System (WRAP Cable)

IEEE STANDARDS

IEEE Power and Energy Society

Developed by the
Power System Communications and Cybersecurity Committee

IEEE Std 1591.3™-2020
(Revision of IEEE Std 1591.3-2011)

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Abstract: Performance and testing specifications for hardware used on helically-applied cable systems (WRAP) in order to standardize testing, simplify procurement specifications, and improve product quality is established in this standard.

Keywords: clearance, conductor, IEEE 1591.3™, skywrap, WRAP

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Introduction

This introduction is not part of IEEE Std 1591.3–2020, IEEE Standard for Qualifying Hardware for Helically-Applied Fiber Optic Cable System (WRAP Cable).

This standard covers the design considerations, mechanical and electrical performance, test requirements, environmental considerations, and acceptance criteria for qualifying hardware for use with WRAP cable. The process of qualification includes the hardware functioning with WRAP cable as a system.

This standard establishes the qualifying test requirements for WRAP cable hardware. This standard is not intended to recommend operating conditions of WRAP cable or hardware.

This standard is not intended to supersede any established safety rules, regulations, or practices associated with the use of WRAP cable systems. It is the responsibility of the user of this standard to establish appropriate safety and health practices and to determine the applicability of regulatory limitations prior to use.

Contents

1. Overview 10
1.1 Scope 10
1.2 Purpose 10

2. Normative references 10

3. Definitions, acronyms, and abbreviations 11
3.1 Definitions 11
3.2 Acronyms and abbreviations 11

4. Requirements for WRAP cable hardware 11
4.1 General requirements 11
4.2 Material requirement 14

5. Design and installation considerations for the hardware 15
5.1 Surface leakage currents 15
5.2 Radio interference voltage (RIV) and corona 15
5.3 Wind 15

6. Qualification testing 15
6.1 Optical measurements 15
6.2 Retesting 17
6.3 Sample selection for hardware characteristics tests 17
6.4 Qualification tests 17

Annex A (informative) System overview 23

Annex B (informative) Installation pictures 26

Annex C (informative) Glossary of terms 29

IEEE Standard for Qualifying Hardware for Helically-Applied Fiber Optic Cable System (WRAP Cable)

1. Overview

1.1 Scope

This standard covers hardware for use with all-dielectric fiber optic (WRAP) cable designed to be helically wrapped around a conductor or other messenger on overhead power facilities. This covers mechanical, and electrical performance, test requirements, environmental considerations, and acceptance criteria for qualification of the hardware.

1.2 Purpose

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

2. Normative references

The following referenced documents are indispensable for the application of this document (i.e., they must 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.

BS 5049-2:1994, Radio interference characteristics of overhead power lines and high-voltage equipment. Methods of measurement and procedure for determining limits.[1]

IEEE Std 4™, IEEE Standard for High-Voltage Test Techniques.[2,3]

IEEE Std 1138™, IEEE Standard for Testing and Performance for Optical Ground Wire (OPGW) for Use on Electric Utility Power Lines.

IEEE Std 1594™ Standard for Helically Applied Fiber Optic Cable Systems (WRAP Cable) for Use on Overhead Utility Lines.

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