

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

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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Approved 3 December 2020

IEEE SA Standards Board

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

The Institute of Electrical and Electronics Engineers, Inc.
3 Park Avenue, New York, NY 10016-5997, USA

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PDF: ISBN 978-1-5044-7279-1 STD24546
Print: ISBN 978-1-5044-7280-7 STDPD24546

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Brett Boles	Zeya Huang	Tewfik Schehade
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Denise Frey	Mark Naylor	Jaelyn Whitehead
Kevin Gao	Jon Potter	Tao Zhou
	Dean Quan	

The following members of the individual Standards Association balloting group voted on this standard. Balloters may have voted for approval, disapproval, or abstention.

Gregory Bennett	John Jones	Bansi Patel
Kenneth Bow	Delavar Khomarlou	Percy Pool
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William Byrd	Chung-Yiu Lam	Charles Rogers
Corrine Dimnik	Arturo Maldonado	James Ryan
Michael Dood	Josep Martin-Rosalada	Bartien Sayogo
Denise Frey	R. Murphy	Tewfik Schehade
Waymon Goch	Mark Naylor	Jerry Smith
Randall Groves	Paul Nevoux	Monty Tuominen
Werner Hoelzl	Lothar E. Radden	John Vergis
Noriyuki Ikeuchi		Jaelyn Whitehead

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Joseph L. Koepfinger*	Damir Novosel	Jingyi Zhou
	Dorothy Stanley	

*Member Emeritus

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.

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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 4TM, IEEE Standard for High-Voltage Test Techniques.^{2,3}

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

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

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