IEEE Standard for Test Procedures and Requirements for Alternating-Current Cable Terminations Used on Shielded Cables Having Laminated Insulation Rated 2.5 kV through 765 kV or Extruded Insulation Rated 2.5 kV through 500 kV

IEEE Power & Energy Society

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Insulated Conductors Committee

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Abstract: All indoor and outdoor cable terminations used on alternating-current cables having laminated insulation rated 2.5 kV through 765 kV or extruded insulation rated 2.5 kV through 500 kV are covered, except for separable insulated connectors, which are covered by IEEE Std 386™-2006.
Keywords: accelerated contamination testing, correction factors, dielectric field tests, environmental exposure, nonstandard service conditions, rating, solar radiation, standard service conditions, test requirements, ultraviolet light

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Introduction

This introduction is not part of IEEE Std 48-2009, IEEE Standard for Test Procedures and Requirements for Alternating-Current Cable Terminations Used on Shielded Cables Having Laminated Insulation Rated 2.5 kV through 765 kV or Extruded Insulation Rated 2.5 kV through 500 kV.

This standard supersedes IEEE Std 48-1996, IEEE Standard Test Procedures and Requirements for Alternating-Current Cable Terminations 2.5 kV through 765 kV.

This standard has been harmonized with IEEE Std 404™-2006 [B21][a] to allow for simultaneous testing of terminations and joints.

Definitions specific to this standard are contained in Clause 3. All other definitions and terminology used herein can be found in *The IEEE Standards Dictionary: Glossary of Terms & Definitions*.[b]

In Clause 7, the tables for extruded dielectric cable terminations have been split into two tables; Table 1 is for cable terminations rated 2.5 kV to 46 kV, and the Table 2 is for cable terminations rated 69 kV to 500 kV.

In Clause 8, 8.2.1, provisions have been made to allow either the 10 s or the 60 s precipitation test.

Subclause 8.4.3 for leak test has been completely rewritten.

Clause 9 has been expanded to include a pollution severity guide to assist the user in defining a particular environment and helping determine the type of termination and creepage length needed.

Clause 10 has been added to discuss the effects of solar radiation and test methods are recommended. The user is also advised to refer to the manufacturer for contamination testing, particularly if difficult environments are encountered.

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[a] The numbers in brackets correspond to those of the bibliography in Annex A.
[b] *The IEEE Standards Dictionary: Glossary of Terms & Definitions* is available at http://shop.ieee.org/.

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IEEE Standard for Test Procedures and Requirements for Alternating-Current Cable Terminations Used on Shielded Cables Having Laminated Insulation Rated 2.5 kV through 765 kV or Extruded Insulation Rated 2.5 kV through 500 kV

1. Scope

This standard covers all indoor and outdoor cable terminations used on alternating-current shielded cables having laminated insulation from 2.5 kV through 765 kV and extruded insulation rated 2.5 kV through 500 kV, except separable insulated connectors, which are covered by IEEE Std 386™-2006 [B18].[1]

Cable terminations and component parts shall be capable of withstanding the tests specified in this standard.

[1] The numbers in brackets correspond to those of the bibliography in Annex A.