

American National Standard for Switchgear and Transformers— Pad-Mounted Equipment— Enclosure Integrity for Coastal Environments

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American National Standards Institute, Inc.

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1. Scope and purpose

1.1 Scope

This standard covers conformance tests and requirements for the integrity of above grade pad-mounted enclosures intended for installation in coastal environments. Other performance requirements may be needed to provide long field life in other contaminated environments. These enclosures contain apparatus energized in excess of 600 volts that may be exposed to the public including, but not limited to, the following types of equipments enclosures:

- Pad-mounted capacitors or inductors;
- Pad-mounted distribution transformers;
- Pad-mounted junction enclosures;
- Pad-mounted metering equipment;
- Pad-mounted switchgear.

This standard does not cover installations that are under the exclusive control of electric utilities and that are located in such a manner that access to the equipment is controlled exclusively by the utility.

1.2 Purpose

The purpose of this standard is to describe the requirements for a comprehensive integrity system for pad-mounted enclosures providing long field life with minimum maintenance and positively safety features.

2. Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this American National Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this American National Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

ANSI C57.12.28-1988, *Switchgear and transformers – Pad-mounted equipment – Enclosure integrity*

ASTM B117-85 E1, *Standard method of salt spray (fog) testing*¹⁾

ASTM D523-85 E1, *Standard test method for specular gloss*¹⁾

ASTM D1654-79A, *Method for evaluation of painted or coated specimens subjected to corrosive environments*¹⁾

ASTM D2794-84, *Standard test method for resistance of organic coatings to the effects of rapid deformation (impact)*¹⁾

ASTM D3359-83, *Standard methods for measuring adhesion by tape test*¹⁾

ASTM D4060-84, *Standard test method for abrasion resistance of organic coatings by the Taber abraser*¹⁾

ASTM D4585-86A, *Standard practice for testing water resistance of coatings using controlled corrosion*¹⁾

ASTM G53-84, *Standard recommended practice for operating light- and water-exposure apparatus (fluorescent UV-condensation type) for exposure of nonmetallic materials*¹⁾

3. Definitions

3.1 routine tests: Tests made for quality control by the manufacturer on every device or representative samples, or on parts or materials as required to verify during production that the product meets the design specifications and applicable standards.

NOTES:

1 — Certain quality assurance tests on identified critical parts of repetitive high-production devices may be tested on a planned statistical sampling basis.

2 — Routine tests are sometimes called production tests.

3.2 design tests: Tests made by the manufacturer to determine the adequacy of the design of a particular type, style, or model of equipment or its component parts to meet its assigned ratings and to operate satisfactorily under normal service conditions or under special conditions if specified. These tests may be used to demonstrate compliance with applicable standards of the industry.

NOTE — Design tests, sometimes called type tests, are made on representative apparatus or prototypes to verify the validity of design analysis and calculation methods and to substantiate the ratings assigned to all other apparatus of basically the same design. These tests may also be used to evaluate the modification of a previous design and to ensure that performance has not been adversely affected. Test data from previous similar designs may be used for current designs where appropriate. Once made, the tests need not be repeated unless the design is changed so as to modify performance.

3.3 conformance tests: Performance tests that are conducted to demonstrate compliance with the applicable standards. The test specimen is normally subject to all planned routine tests prior to initiation of the conformance test program.

NOTE — The conformance tests may or may not be similar to certain design tests. Demonstration of margins (capabilities) beyond the standard requirements is unnecessary.

¹⁾Available from ASTM, 1916 Race Street, Philadelphia, PA 19103.