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Enclosures for Electrical Equipment (1000 Volts Maximum)

National Electrical Manufacturers Association

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ENCLOSURES FOR ELECTRICAL EQUIPMENT (1000 VOLTS MAXIMUM)

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Enclosures for Electrical Equipment (1000 Volts Maximum)

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FOREWORD

This Standards Publication covers the classification and description of enclosures for electrical equipment. Enclosures for rotating apparatus have not been included. The primary purpose of this publication is to permit a potential user to determine:

1. The type of enclosure appropriate for the application.
2. The features the enclosure is expected to have.
3. The tests applied to the enclosure to demonstrate its conformance to the description.

These standards are used by the electrical industry to provide guidelines for the manufacture and proper application of enclosures and to promote the benefits of repetitive manufacturing and widespread enclosure availability.

Each type of enclosure is described in general and functional terms where practicable and omits reference to structural details and specific applications except where they are essential to the identification of the enclosure type. For such structural details and specific applications, see the appropriate NEMA product standards publication.

Individual product standards publications incorporating enclosure construction unique to the product design may reflect the type of designations contained herein provided the design tests for such construction equal or exceed the requirements of these Standards Publication.

User needs have been considered throughout the development of this publication. Proposed or recommended revisions should be submitted to:

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Publication 250-2008 revises and supersedes Publication 250-2003.
This Standards Publication was developed by the NEMA Enclosure Section of the National Electrical Manufacturers Association. Section approval of the standard does not necessarily imply that all section members voted for its approval or participated in its development. At the time it was approved, the Enclosure Section was composed of the following members:

Allied Moulded Products, Inc. — Bryan, OH
Boltswitch, Inc. — Crystal Lake, IL
Carlon, Lamson & Sessions — Cleveland, OH
Cooper B-Line — Sherman, TX
Cooper Crouse-Hinds — Syracuse, NY
Eaton Corporation — Pittsburgh, PA
EGS Electrical Group — Skokie, IL
GE Industrial Systems — Plainville, CT
Hoffman Enclosures Inc. — Anoka, MN
Hubbell Incorporated — Bridgeport, CT
Killark Electric Mfg. Company — St. Louis, MO
Milbank Manufacturing Company — Concordia, MO
Moeller Electric Corporation — Franklin, MA
Penn Panel & Box Company — Collingdale, PA
Rittal Corporation — Springfield, OH
Robroy Industries, Inc. — Belding, MI
Siemens Energy & Automation, Inc. —Alpharetta, GA
Square D Company/Schneider Electric — Lexington, KY
Thomas & Betts Corporation — Memphis, TN

Section 1
GENERAL

1.1 SCOPE

This standard covers enclosures for electrical equipment rated not more than 1000 Volts and intended to be installed and used as follows:

a. Non-hazardous (non-classified) locations
   1. Enclosures for indoor locations, Types 1, 2, 5, 12, 12K, and 13; and
   2. Enclosures for indoor or outdoor locations, Types 3, 3X, 3R, 3RX, 3S, 3SX, 4, 4X, 6, and 6P.

b. Hazardous (classified) locations
   1. Enclosures for indoor locations, Types 7 and 9;
   2. Enclosures for indoor or outdoor locations, Type 8; and
   3. Enclosures for mining applications, Type 10.

Requirements for enclosures for non-hazardous (non-classified) locations are contained in the body of the standard. Requirements for enclosures for hazardous (classified) locations are contained in Annex A of the standard.

This standard covers the requirements to provide protection to the enclosed equipment against specific environmental conditions.

This standard supplements requirements for enclosures that are contained in the individual product standards.

This standard does not cover the requirements for protection of devices against conditions such as condensation, icing, corrosion, or contamination which may occur within the enclosure or which may enter via conduit or unsealed openings.

A product that contains features, characteristics, components, materials, or systems new or different from those in use when the standard was developed, and that involves a risk of fire, electric shock, or injury to persons shall be evaluated using the appropriate additional component and end-product requirements as determined necessary to maintain the level of safety for the user of the product as originally anticipated by the intent of this standard.

1.2 REFERENCES

The following documents contain provisions, which through reference in this text, constitute provisions of this Standards Publication. By reference herein these publications are adopted, in whole or in part as indicated, in this publication.

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