

NEMA 250-2018

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:

- a. The type of enclosure appropriate for the application.
- b. The features the enclosure is expected to have.
- c. 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 this 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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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:

Adalet	Cleveland, OH
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Millbank Manufacturing Company	Kansas City, MO
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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. enclosures for indoor locations, Types 1, 2, 5, 12, 12K, and 13; and
- b. enclosures for indoor or outdoor locations, Types 3, 3X, 3R, 3RX, 3S, 3SX, 4, 4X, 6, and 6P; and
- c. enclosures for hazardous (classified) locations Types 7 and 9

This Standard covers the requirements to provide protection to the enclosed equipment against specific environmental conditions. The requirements of this Standard mandate that enclosures and equipment shall be installed and used in accordance with manufacturer's instructions and 110.3(B) of the *National Electrical Code*[®], ANSI/NFPA 70.

This Standard covers the requirements for enclosures that are installed and ready for use in non-hazardous (unclassified) locations.

This Standard additionally covers the requirements for dust-tight enclosures that are installed and ready for use where permitted by *National Electrical Code*[®] (NEC) in Class II, Division 2; Class III, Division 1; Class III, Division 2; and Zone 22 hazardous (classified) locations as defined by the NEC, *ANSI/NFPA 70*, or by *Nonincendive Electrical Equipment for use in Class I and II, Division 2, and Class III, Divisions 1 and 2 Hazardous (Classified) Locations*, ANSI/ISA 12.12.01. Where dust-tight enclosures are integral to or incorporate separable electrical connections (e.g., plug and receptacle, plug and connector body, inlet and connector body) for use in Class II, Division 2; Class III, Division 1; Class III, Division 2; and Zone 22 hazardous (classified) locations, the combination shall be designed to ensure that current cannot be ruptured at the separable electrical connections while energized parts are exposed.

This Standard also references requirements for Class I; Division 1 explosion-proof enclosures marked Type 7 and Class II, Division 1 dust-ignition-proof enclosures marked Type 9. The reference requirements are in accordance with *ANSI/UL 1203* with the associated area classifications and installation requirements in accordance with *ANSI/NFPA 70/NEC*.

This Standard supplements requirements for enclosures that are contained in the individual product Standards.

This Standard does not cover the requirements for protection of the enclosed equipment against conditions such as condensation, gas vapor ignition, thermal damage, icing, corrosion, or contamination, which may occur within the enclosure or which may enter via conduit or unsealed openings.

This Standard does not cover protection of personnel from contact with enclosed electrical equipment where the enclosures or equipment are incompletely installed or where enclosed electrical equipment has been rendered accessible for servicing, maintenance, testing, troubleshooting, internal measurements, or calibration or by damage.

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.