

NEMA 250-2018

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Standard for Enclosures  
for Electrical  
Equipment (1000 Volts  
Maximum



**NEMA 250-2018**

*Enclosures for Electrical Equipment (1000 Volts Maximum)*

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**CONTENTS**

<b>Section 1</b>	<b>General</b> .....	<b>1</b>
1.1	Scope.....	1
1.2	References .....	2
1.3	Definitions.....	3
<b>Section 2</b>	<b>Enclosure Types, Features, and Applications</b> .....	<b>5</b>
2.1	General.....	5
2.2	Explanation of the Enclosure Type Nomenclature .....	7
2.3	Specific Type Ratings.....	5
2.4	Ancillary Ratings.....	9
<b>Section 3</b>	<b>Construction</b> .....	<b>10</b>
3.1	General.....	10
3.2	Units Of Measurement.....	10
3.3	Materials—General.....	10
3.4	Materials—Polymeric.....	10
3.5	Corrosion Protection—General .....	10
3.5.1	Indoor Corrosion Protection.....	11
3.5.2	Outdoor Corrosion Protection.....	11
3.5.3	Annealed Coating.....	12
3.5.4	Bends and Forms on Zinc Coatings.....	12
3.5.5	Hot Dipped Galvanized Damage.....	12
3.5.6	Cast Iron.....	12
3.5.7	Corrosion Protection for Type 3X, 3RX, 3SX, 4X, and 6P Enclosures .....	12
3.6	Openings .....	12
3.6.1	Equipment Openings.....	12
3.6.2	Ventilation.....	13
3.6.3	Drainage Openings.....	13
3.7	Mounting.....	13
3.8	Conduit Connection.....	13
3.9	Hubs And Fittings .....	13
3.10	Knockouts.....	13
3.11	External Operating Mechanisms.....	14
3.12	Access To Interior.....	14
3.13	Closing Hardware.....	14
3.14	Gaskets.....	14
3.15	Observation Windows.....	15
3.16	Edge Sharpness on Enclosures.....	15
<b>Section 4</b>	<b>Marking</b> .....	<b>16</b>
4.1	Type Designations.....	16
4.2	Supplemental Markings.....	16
4.3	Location Of Markings.....	16
4.4	Enclosure Orientation.....	16
4.5	Conduit Hubs And Closure Plates.....	16
4.6	Equipment Openings.....	17
4.7	Drainage Openings.....	17
<b>Section 5</b>	<b>Design Tests</b> .....	<b>18</b>
5.1	General.....	18
5.1.1	Protection against Access to Hazardous Parts and against Solid Foreign Objects....	18
5.1.2	Protection against Access to Hazardous Parts .....	18
5.1.3	Protection against Solid Foreign Objects .....	19
5.1.4	Degrees of Protection against Ingress of Water.....	21
5.1.5	Additional Protection Offered by Enclosure Types.....	23

5.2	Test For Protection Against Access To Hazardous Parts .....	24
5.2.1	Nonventilated Enclosures Test Method.....	24
5.2.2	Ventilated Enclosures Test Method.....	24
5.2.3	Evaluation.....	24
5.3	Test For Protection Against Ingress Of Water (Dripping And Light Splashing) .....	24
5.3.1	Method A .....	25
5.3.2	Method B .....	25
5.3.3	Evaluation.....	25
5.4	Test For Protection Against Ingress Of Water (Rain).....	25
5.4.1	Method.....	25
5.4.2	Evaluation.....	26
5.5	Tests For Protection Against Ingress Of Solid Foreign Objects (Windblown, Circulating, and Settling Dust, Lint, Fibers, And Flyings) .....	29
5.5.1	Outdoor (Windblown) Dust Test.....	29
5.5.2	Indoor (Circulating and Settling) Dust Tests.....	30
5.6	External Icing Test.....	31
5.6.1	Test Method.....	31
5.6.2	Evaluation.....	32
5.7	Test For Protection Against Ingress Of Water (Hosedown).....	32
5.7.1	Test Method.....	32
5.7.2	Evaluation.....	32
5.8	Indoor Corrosion Protection (Rust-Resistance Test (24-Hour Salt Spray Test)) .....	32
5.8.1	Test Equipment .....	33
5.8.2	Salt Solution.....	33
5.8.3	Air Supply .....	33
5.8.4	Temperature .....	33
5.8.5	Test Procedure.....	33
5.8.6	Evaluation.....	33
5.9	Outdoor Corrosion Protection.....	33
5.9.1	600-Hour Salt Spray Test.....	33
5.9.2	Evaluation.....	33
5.9.3	1200-Hour Moist Carbon Dioxide—Sulfur Dioxide—Air Test.....	34
5.10	Corrosion Protection—Type 3, 3RX, 3SX, 4X, Or 6P Enclosures .....	34
5.10.1	Evaluation.....	34
5.11	Test For Protection Against Ingress Of Water (Temporary Submersion) .....	34
5.11.1	Test Method.....	34
5.11.2	Evaluation.....	34
5.12	Test For Protection Against Ingress Of Water (Prolonged Submersion) .....	34
5.12.1	Alternate Tests.....	35
5.13	Oil Exclusion Test.....	35
5.13.1	Test Method.....	35
5.13.2	Evaluation.....	36
5.14	Gasket Material Tests.....	36
5.14.1	Aging Test Conditioning .....	36
5.14.2	Evaluation.....	36
5.14.3	Alternate Evaluation .....	36
5.14.4	Oil Immersion Test .....	36
5.15	High Pressure Power Wash Test .....	36
5.15.1	Test Method.....	36
<b>Section 6 Field Modifications .....</b>		<b>42</b>
6.1	Painting of Enclosure Exteriors (Excluding types 7 and 9) .....	42
<b>Annex A Comparison Between NEMA Enclosure Type Numbers and ANSI/IEC Enclosure Classification Designations .....</b>		<b>45</b>

**A.1 General ..... 45**

**Tables**

Table 2-1 Comparison of Specific Applications of Enclosures for Indoor Locations ..... 5  
Table 2-2 Comparison of Specific Applications of Enclosures for Indoor & Outdoor Locations ..... 6  
Table 3-1 Knockout Dimensions ..... 14  
Table 5-1A Degrees of Protection Against Access to Hazardous Parts ..... 19  
Table 5-1B Degrees of Protection Against Solid Foreign Objects ..... 20  
Table 5-1C Degrees of Protection against Water ..... 22  
Table 5-1D Additional Protection ..... 23  
Table 5-2 Tightening Torque ..... 25  
Table A-1 Conversion of NEMA Enclosure Type Ratings to ANSI/IEC 60529 Enclosure Classification Designations (IP) ..... 47

**Figures**

Figure 5-1 Rain-test spray-head piping ..... 27  
Figure 5-2 Rain-test spray-head ..... 28  
Figure 5-3 Fan Jet nozzle dimensions ..... 37  
Figure 5-4 Fan Jet nozzle resulting dimensions of spraying hole for checking purpose ..... 38  
Figure 5-5 Example of different quality achievements of the surface finish of the fan jet nozzle ..... 39  
Figure 5-6 Set-up for measuring the impact force of the water jet for determining the protection against high pressure and temperature water jet, degree of protection against ingress of water IP X9 ..... 40  
Figure 5-7 Impact force distribution ..... 40  
Figure 5-8 Test set-up for determining the protection against high-pressure and temperature water jet; degree of protection against ingress of water IPX9 for sn. " enclosures ..... 41

## 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
Allied Moulded Products, Inc.	Bryan, OH
Arlington Industries, Inc.	Scranton, PA
Boltswitch, Inc.	Crystal Lake, IL
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GE	Boston, MA
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Legrand, North America	West Hartford, CT
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*<sup>®</sup>, 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*<sup>®</sup> (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 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.