

NEMA Type Enclosures for Electrical Equipment

The following descriptions are excerpts from NEMA's "Standards Publication/No. 250-1979."

NON-CLASSIFIED LOCATION ENCLOSURES

Type 1 Enclosures

Type 1 enclosures are intended for indoor use primarily to provide a degree of protection against contact with the enclosed equipment in locations where unusual service conditions do not exist. The enclosures shall meet the rod entry and rust-resistance design tests.

Type 2 Enclosures

Type 2 enclosures are intended for indoor use primarily to provide a degree of protection against limited amounts of falling water and dirt. These enclosures shall meet rod entry, drip, and rust-resistance design tests. They are not intended to provide protection against conditions such as dust or internal condensation.

Type 3 Enclosures

Type 3 enclosures are intended for outdoor use primarily to provide a degree of protection against windblown dust, rain, sleet, and external ice formation. They shall meet rain, external icing, dust, and rust-resistance design tests. They are not intended to provide protection against conditions such as internal condensation or internal icing.

Type 3R Enclosures

Type 3R enclosures are intended for outdoor use primarily to provide a degree of protection against falling rain, sleet, and external ice formation. They shall meet rod entry, rain external icing, and rust-resistance design tests. They are not intended to provide protection against conditions such as dust, internal condensation, or internal icing.

Type 3S Enclosures

Type 3S enclosures are intended for outdoor use primarily to provide a degree of protection against windblown dust, rain, and sleet and to provide for operation of external mechanisms when ice laden. They shall meet rain, dust, external icing, and rust-resistance design tests. They are not intended to provide protection against conditions such as internal condensation or internal icing.

Type 4 Enclosures

Type 4 enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against windblown dust and rain, splashing water, and hose-directed water. They shall meet hosedown, dust, external icing, and rust-resistance design tests. They are not intended to provide protection against conditions such as internal condensation or internal icing.

Type 4X Enclosures

Type 4X enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against corrosion, windblown dust and rain, splashing water, and hose-directed water. They shall meet the hosedown, dust, external icing, and corrosion-resistance design tests. They are not intended to provide protection against conditions such as internal condensation or internal icing.

Type 5 Enclosures

Type 5 enclosures are intended for indoor use primarily to provide a degree of protection against dust and falling dirt. They shall meet the dust and rust-resistance design tests. They are not intended to provide protection against conditions such as internal condensation.

NEMA Type Enclosures for Electrical Equipment

Type 6 Enclosures

Type 6 enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against the entry of water during occasional temporary submersion at a limited depth. They shall meet submersion, external icing, and rust-resistance design tests. They are not intended to provide protection against conditions such as internal condensation, internal icing, or corrosive environments.

Type 6P Enclosures

Type 6P enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against the entry of water during prolonged submersion at a limited depth. They shall meet air pressure, external icing, and corrosion-resistance design tests. They are not intended to provide protection against conditions such as internal condensation or internal icing.

Type 11 Enclosures

Type 11 enclosures are intended for indoor use primarily to provide, by oil immersion, a degree of protection to enclosed equipment against the corrosive effects of liquids and gases. They shall meet drip and corrosion-resistance design tests. They are not intended to provide protection against conditions such as internal condensation or internal icing.

Type 12 Enclosures

Type 12 enclosures are intended for indoor use primarily to provide a degree of protection against dust, falling dirt, and dripping noncorrosive liquids. They shall meet drip, dust, and rust-resistance tests. They are not intended to provide protection against conditions such as internal condensation.

Type 12K Enclosures

Type 12K enclosures with knockouts are intended for indoor use primarily to provide a degree of protection against dust, falling dirt, and dripping noncorrosive liquids other than at knockouts. They shall meet drip, dust, and rust-resistance design tests. Knockouts are provided in the top and/or bottom walls only. After installation, the knockout areas shall meet the environmental characteristics listed above. They are not intended to provide protection against conditions such as internal condensation.

Type 13 Enclosures

Type 13 enclosures are intended for indoor use primarily to provide a degree of protection against dust, spraying of water, oil, and noncorrosive coolant. They shall meet oil exclusion and rust-resistance design tests. They are not intended to provide protection against conditions such as internal condensation.

CLASSIFIED LOCATION ENCLOSURES

Type 7 Enclosures

Type 7 enclosures are intended for indoor use in locations classified as Class I, Groups A, B, C, or D, as defined in the National Electrical Code.

Type 8 Enclosures

Type 8 enclosures are intended for indoor or outdoor use in locations classified as Class I, Groups A, B, C, or D, as defined in the National Electrical Code.

Type 9 Enclosures

Type 9 enclosures are intended for indoor use in locations classified as Class II, Groups E, F, or G, as defined in the National Electrical Code.

Type 10 Enclosures (MSHA)

Type 10 enclosures shall be capable of meeting the requirements of the Mine Safety and Health Administration, 30 C.F.R., Part 18 (1978).