



The **National Electrical Manufacturers Association (NEMA)** Standards Publication No. 250 defines 13 different enclosure “types” for non-hazardous locations. These NEMA types define the applications and the environmental conditions that enclosures are designed to protect against when properly installed.

Type 1: Enclosures constructed for indoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment, and to provide a degree of protection against falling dirt.

Type 2: Enclosures constructed for indoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment, to provide a degree of protection against falling dirt, and to provide a degree of protection against dripping and light splashing of liquids.

Type 3: Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt, rain, sleet, snow, and windblown dust; and that will be undamaged by the external formation of ice on the enclosure.

Type 3R: Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt, rain, sleet, snow; and that will be undamaged by the external formation of ice on the enclosure.

Type 3S: Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt, rain, sleet, snow, and windblown dust; and in which the external mechanism(s) remain operable when ice laden.

Type 4: Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt, rain, sleet, snow, windblown dust, splashing water, and hose-directed water; and that will be undamaged by the external formation of ice on the enclosure.

Type 4X Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt, rain, sleet, snow, windblown dust, splashing water, hose-directed water; and corrosion; and that will be undamaged by the external formation of ice on the enclosure.

Type 5: Enclosures constructed for indoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt; against settling airborne dust, lint and fiber flyings; and to provide a degree of protection against dripping and light splashing of liquids.

Type 6: Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt; against hose directed water and the entry of water during occasional temporary submersion at a limited depth; and that will be undamaged by the external formation of ice on the enclosure.

Type 6P: Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt; against hose directed water and the entry of water during prolonged submersion at a limited depth; and that will be undamaged by the external formation of ice on the enclosure.

Type 12: Enclosures constructed (without knockouts) for indoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt; against circulating dust, lint and fiber flyings; and against dripping and light splashing of liquids.

Type 12K: Enclosures constructed (with knockouts) for indoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt; against circulating dust, lint, fiber flyings; and against dripping and light splashing of liquids.

Type 13: Enclosures constructed for indoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt; against circulating dust, lint and fiber flyings; and against spraying splashing, and seepage of water, oil and noncorrosive coolants. If you have any questions about BAPI enclosures or NEMA ratings, please call your BAPI representative.

Reference: NEMA Standard 250-1997, “Enclosures for Electrical Equipment (1000 Volts Maximum)”