

NEMA and UL Equivalency Chart

Enclosure Rating	NEMA	UL
Type 1	Indoor use <i>Protection against:</i> <ul style="list-style-type: none"> incidental human contact inside falling dirt 	Indoor use <i>Protection against:</i> <ul style="list-style-type: none"> incidental human contact inside Limited amount of falling dirt.
Type 2	Indoor use <i>Protection against:</i> <ul style="list-style-type: none"> incidental human contact inside Falling dirt Dripping/light slashing of liquids 	Indoor use <i>Protection against:</i> <ul style="list-style-type: none"> incidental human contact inside Limited amount of falling dirt. Dripping/light splashing of non-corrosive liquids
Type 3	Indoor/Outdoor use <i>Protection against:</i> <ul style="list-style-type: none"> incidental human contact inside falling dirt Rain Sleet Snow Windblown Dust Damage from the formation of ice on the enclosure 	Outdoor use <i>Protection against:</i> <ul style="list-style-type: none"> incidental human contact inside falling dirt Rain Sleet Snow Windblown Dust Damage from the formation of ice on the enclosure
Type 3R	Indoor/Outdoor use <i>Protection against:</i> <ul style="list-style-type: none"> incidental human contact inside falling dirt Rain Sleet Snow Damage from the formation of ice on the enclosure 	Outdoor use <i>Protection against:</i> <ul style="list-style-type: none"> incidental human contact inside falling dirt Rain Sleet Snow Damage from the formation of ice on the enclosure
Type 3S	Indoor/Outdoor use <i>Protection against:</i> <ul style="list-style-type: none"> incidental human contact inside falling dirt Rain Sleet Snow Windblown dust External Mechanism(s) Must Remain Operable: <ul style="list-style-type: none"> When covered with ice 	Indoor/Outdoor use <i>Protection against:</i> <ul style="list-style-type: none"> incidental human contact inside falling dirt Rain Sleet Snow Windblown dust External Mechanism(s) Must Remain Operable: <ul style="list-style-type: none"> When covered with ice
Type 4	Indoor/Outdoor use <i>Protection against:</i> <ul style="list-style-type: none"> incidental human contact inside falling dirt Rain Sleet Snow Windblown dust Splashing water Hose-directed water Damage from the formation of ice on the enclosure 	Indoor/Outdoor use <i>Protection against:</i> <ul style="list-style-type: none"> incidental human contact inside falling dirt Rain Sleet Snow Windblown dust Splashing water Hose-directed water Damage from the formation of ice on the enclosure
Type 4X	Indoor/Outdoor use <i>Protection against:</i> <ul style="list-style-type: none"> incidental human contact inside falling dirt Rain Sleet Snow Windblown dust Splashing water Hose-directed water Corrosion Damage from the formation of ice on the enclosure 	Indoor/Outdoor use <i>Protection against:</i> <ul style="list-style-type: none"> incidental human contact inside falling dirt Rain Sleet Snow Windblown dust Splashing water Hose-directed water Corrosion Damage from the formation of ice on the enclosure
Type 5	Indoor use <i>Protection against:</i> <ul style="list-style-type: none"> incidental human contact inside falling dirt Settling airborne dust, lint, fibers, and flyings Dripping/light splashing of liquids 	Indoor use <i>Protection against:</i> <ul style="list-style-type: none"> incidental human contact inside falling dirt Settling airborne dust, lint, fibers, and flyings Dripping/light splashing of non-corrosive liquids
Type 6	Indoor/Outdoor use <i>Protection against:</i> <ul style="list-style-type: none"> incidental human contact inside falling dirt Hose-directed water Entry of water during occasional temporary submersion at a limited depth Damage from the formation of ice on the enclosure 	Indoor/Outdoor use <i>Protection against:</i> <ul style="list-style-type: none"> incidental human contact inside falling dirt Rain Sleet Snow Hose-directed water Corrosion Entry of water during occasional temporary submersion at a limited depth Damage from the formation of ice on the enclosure
Type 6P	Indoor/Outdoor use <i>Protection against:</i> <ul style="list-style-type: none"> incidental human contact inside Falling dirt Hose-directed water Entry of water during prolonged submersion at a limited depth Damage from the formation of ice on the enclosure 	Indoor/Outdoor use <i>Protection against:</i> <ul style="list-style-type: none"> incidental human contact inside Falling dirt Rain Sleet Snow Hose-directed water Corrosion Entry of water during prolonged submersion at a limited depth Damage from the formation of ice on the enclosure
Type 7	Indoor use in NFPA 70 defined hazardous (classified) locations <i>Including:</i> <ul style="list-style-type: none"> Class I Division 1 Groups A, B, C, or D <i>Protection:</i> Contains an internal explosion without causing an external hazard.	Indoor use in NFPA 70 defined hazardous (classified) locations <i>Including:</i> <ul style="list-style-type: none"> Class I Division 1 Groups A, B, C, or D
Type 8	Indoor/Outdoor use in in NFPA 70 defined hazardous (classified) locations <i>Including:</i> <ul style="list-style-type: none"> Class I Division 1 Groups A, B, C, or D <i>Protection:</i> Prevents combustion through the use of oil-immersed equipment	Indoor/Outdoor use in NFPA 70 defined hazardous (classified) locations <i>Including:</i> <ul style="list-style-type: none"> Class I Division 1 Groups A, B, C, or D
Type 9	Indoor use in NFPA 70 defined hazardous (classified) locations <i>Including:</i> <ul style="list-style-type: none"> Class II Division 1 Groups E, F, or G <i>Protection:</i> Prevents the ignition of combustible dust	Indoor use in NFPA 70 defined hazardous (classified) locations <i>Including:</i> <ul style="list-style-type: none"> Class II Division 1 Groups E, F, or G
Type 10	<i>Protection:</i> Contains an internal explosion without causing an external hazard.	Meets Mine Safety and Health Administration, 30 CFR, Part 18 Requirements
Type 12 and 12K	Indoor use (Type 12-without knockouts and Type 12K-with knockouts) <i>Protection against:</i> <ul style="list-style-type: none"> incidental human contact inside Falling dirt Circulating dust, lint, fibers, and flyings Dripping/light splashing of liquids 	Indoor use (Type 12-without knockouts and Type 12K-with knockouts) <i>Protection against:</i> <ul style="list-style-type: none"> incidental human contact inside Falling dirt Circulating dust, lint, fibers, and flyings Dripping/light splashing of non-corrosive liquids Seepage of oil and non-corrosive coolants
Type 13	Indoor use <i>Protection against:</i> <ul style="list-style-type: none"> incidental human contact inside Falling dirt Circulating dust, lint, fibers, and flyings Spraying, splashing, seepage of water, oil, and noncorrosive coolants 	Indoor use <i>Protection against:</i> <ul style="list-style-type: none"> incidental human contact inside Falling dirt Circulating dust, lint, fibers, and flyings Dripping/light splashing of non-corrosive liquids Spraying and splashing Seepage of oil and non-corrosive coolants

Hazardous Area Classification Definitions

Division 1: Ignitable concentrations of flammable gases, flammable liquid-produced vapors, or combustible liquid-produced vapors can exist under normal operating conditions.

CLASS I: Flammable gases, flammable liquid produced vapors, and combustible liquid produced vapors

CLASS II: Combustible dusts

Group A: Acetylene

Group E: Metal Dusts (Div. 1 only)

Group B: Hydrogen

Group F: Carbonaceous Dusts

Group C: Ethylene

Group G: Non-Conductive Dusts (flour, grain, wood, plastic, etc.)

Group D: Propane

Source: How hazardous areas are classified:

<https://industries.ul.com/hazardous-locations/atex-iecex-global-market-access/ul-and-c-ul-certification-for-north-america>

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