NEMA Enclosure Types Chart (NEMA 250)

Basis: NEMA 250 Enclosures for Electrical Equipment (1000 V maximum). Types 7, 8, 9 and 10 cover hazardous locations and mines.

instrumentationblog.in/downloads/engineering-reference-tables/nema-enclosure-types-chart/

NEMA enclosure types

Type	Location	Protects against	Approx. IP (one way)
1	Indoor	Falling dirt, accidental contact	IP10
2	Indoor	Plus dripping and light splashing water	IP11
3	Indoor or outdoor	Rain, sleet, snow, windblown dust; external ice	IP54
3R	Indoor or outdoor	Rain, sleet, snow; external ice	IP14
3S	Indoor or outdoor	As 3, and mechanism works when iced	IP54
3X, 3RX, 3SX	Indoor or outdoor	As 3, 3R, 3S plus corrosion resistance	
4	Indoor or outdoor	Hose directed water, windblown dust, rain	IP66
4X	Indoor or outdoor	As 4 plus corrosion resistance	IP66
5	Indoor	Settling dust, lint, fibres; dripping liquids	IP52
6	Indoor or outdoor	Temporary submersion at limited depth	IP67
6P	Indoor or outdoor	Prolonged submersion at limited depth	IP68
7	Indoor	Hazardous locations, Class I Div 1 gases (explosion proof)	
8	Indoor or outdoor	Hazardous locations, Class I gases, oil immersed	
9	Indoor	Hazardous locations, Class II combustible dust	
10	Mines	Mine Safety and Health Administration requirements	
12, 12K	Indoor	Dust, lint, fibres, dripping oil and coolant (no knockouts)	IP52
13	Indoor	Dust, spraying water, oil and non corrosive coolant	IP54

Notes

- A NEMA type meets or exceeds the IP shown, but an IP rating does not prove a NEMA type (NEMA also tests corrosion, icing and construction).
- Types 7 and 9 are hazardous location enclosures and need third party certification.

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