



## NEMA Ratings vs. IP Equivalency Chart

NEMA Rating	IP Equivalent	NEMA Definition	IP Definition	
1	IP10	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	1 = Protected against solid foreign objects of 50mm in diameter and greater	0 = Not Protected
2	IP11	Enclosures constructed for indoor used 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	1 = Protected against solid foreign objects of 50mm in diameter and greater	1 = Protected against vertically falling water drops
3	IP54	Enclosures constructed for either indoor or outdoor used 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 undamaged by external formation of ice on the enclosure	5 = Protected against dust - Limited to ingress (no harmful deposit)	4 = Protected against water sprayed from all directions
3R	IP14	Enclosures constructed for either indoor or outdoor used 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, and snow; and that will be undamaged by external formation of ice on the enclosure	1 = Protected against vertically falling water drops	4 = Protected against water sprayed from all directions
3S	IP54	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.	5 = Protected against dust - Limited to ingress (no harmful deposit)	4 = Protected against water sprayed from all directions
4	IP66	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	5 = Protected against dust - Limited to ingress (no harmful deposit)	6 = Protected against strong jets of water from all directions
4X	IP66	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	5 = Protected against dust - Limited to ingress (no harmful deposit)	6 = Protected against strong jets of water from all directions
5	IP52	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, fibers, and flyings; and to provide a degree of protection against dripping and light splashing of liquids.	5 = Protected against dust - Limited to ingress (no harmful deposit)	2 = Protected against direct sprays of water up to 15° from the vertical.
6	IP67	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.	6 = Totally protected against dust	7 = Protected against the effects of temporary immersion between 15cm and 1m, 30 minutes.
6P	IP67	Enclosures constructed for either indoor or outdoor use to provide a degree of protection to the 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	6 = Totally protected against dust	7 = Protected against the effects of temporary immersion 15cm - 1m, 30 minutes
12 and 12K	IP52	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, fibers, and flying; and against dripping and light splashing of liquids	5 = Protected against dust - Limited to ingress (no harmful deposit)	2 = Protected against direct sprays of water up to 15° from vertical
13	IP54	Enclosures constructed for indoor use to provide a degree of protection to personnel against contact with the enclosed equipment; to provide a degree of protection against falling dirt; against circulating dust, lint, & fibers; against the spraying, splashing, and seepage of water, oil, & noncorrosive coolants.	5 = Protected against dust - Limited to ingress (no harmful deposit)	4 = Protected against water sprayed from all directions