

NEMA Rating	IP Equivalent	NEMA Definition	IP Against Objects	IP Against Liquids
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 5 cm (2 in) diameter and greater	0 = Not protected
2	IP11	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	1 = Protected against solid foreign objects of 5 cm (2 in) diameter and greater	1 = Protected against vertically falling water drops
3	IP54	Enclosures constructed for 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 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; limited to ingress permitted
3R	IP14	Enclosures constructed for 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 and snow; and that will be undamaged by external formation of ice on the enclosure	1 = Protected against solid foreign objects of 5 cm (2 in) diameter and greater	4 = Protected against water sprayed from all directions; limited to ingress permitted
3S	IP54	Enclosures constructed for 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; limited to ingress permitted
4	IP56	Enclosures constructed for 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 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; limited to ingress permitted
4X	IP56	Enclosures constructed for 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 corrosion; and that will be undamaged by 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; limited to ingress permitted
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 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 external formation of ice on the enclosure	6 = Totally protected against entry of dust	7 = Protected against effects of submersion from 15 cm (6 in) to 1 m (3 ft)
6P	IP68	Enclosures constructed for 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 prolonged submersion at a limited depth; and that will be undamaged by external formation of ice on the enclosure	6 = Totally protected against entry of dust	8 = Protected against the effects of occasional submersion in water, up to 10 m (33 ft)
12	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 flyings; and to provide a degree of protection to 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
12K	IP52	Enclosures constructed with knockout(s) 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 flyings; and to provide a degree of protection to 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
13	IP54	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, fibers and flyings; and against the spraying, splashing and seepage of water, oil and non-corrosive coolants	5 = Protected against dust; limited to ingress (no harmful deposit)	4 = Protected against water sprayed from all directions; limited to ingress permitted