

















Classification IP Protection Class

The IP Code, International Protection Marking, IEC standard 60529, sometimes interpreted as Ingress Protection Marking, classifies and rates the degree of protection provided against intrusion (body parts such as hands and fingers), dust, accidental contact, and water by mechanical casings and electrical enclosures. It is published by the International Electrotechnical Commission (IEC). The equivalent European standard is EN 60529. The standard aims to provide users more detailed information than vague marketing terms such as waterproof. The digits (characteristic numerals) indicate conformity with the conditions summarized in the tables below. Where there is no data available to specify a protection rating with regard to one of the criteria, the digit is replaced with the letter X. The digit 0 is used where no protection is provided.

FIRST NUMBER Protection against solid objects			SECOND NUMBER Protection against liquids		
IP		TEST	IP		TEST
0		no protection	0		no protection
1		protected against solid objects over 50 mm e.g. accidental touch by hands	1		protected against vertically falling drops of water
2		protected against solid objects over 12 mm e.g. fingers	2		protected against direct sprays of water up to 15° from the vertical
3		protected against solid objects over 2,5 mm (tools + small wires)	3		protected against sprays to 60° from the vertical
4		protected against solid objects over 1 mm (tools + small wires)	4		protected against water sprayed from all directions - limited ingress permitted
5		protected against dust - limited ingress permitted (no harmful deposit.)	5		protected against low pressure jets of water from all directions - limited ingress permitted
6		totally protected against dust	6		protected against strong jets of water e.g. for use on shipdecks - limited ingress permitted
			7		protected against the affects of immersion between 15 cm and 1 m
			8		protected against long periods of immersion under pressure