

Surface technology

- Enamelling of sheet steel, aluminium, plastic and casting
- Screen- and pad printing
- Powder coatings
- Galvanic processes
- EMC-/ESD-coatings

Industrial components

- Manufacturing of customised foil keyboards and front foils
- Front plates, enclosures and industrial labels
- Flat input systems and mechanics
- Individual all-in solutions
- Express service 5-10-15 workdays

CUSTOMER INFORMATION KDI00013 as at July 26th 2001

DEGREES OF PROTECTION ACCORDING TO DIN 40 050 / IEC 529 / VDE 0470 / EN 60529

Degrees of protection are classified according to DIN 40 050. The degrees of protection are identified by means of internationally valid short symbols (IP=International Protection). The abbreviation IP is followed by two digits. The first digit stands for the protection against the intrusion of solid bodies. The second digit describes the degree of protection against the intrusion of water. These specifications refer to untreated enclosures regardless of influences such as ageing, temperature changes, ...

Degrees of protection for protection against contact and foreign substances.

Degrees of protection for protection against water.

First code digit	Degrees of protection		Second code digit	Degrees of protection	
	protection against	Description		protection against	Description
0	No protection	-	0	No protection	-
1	Large foreign bodies	Protection against accidental, large-area contacting of active parts or parts in motion inside the equipment, e.g. with one's hands. No protection against deliberate access to these parts. Protection against intrusion of solid foreign bodies with a diameter larger than 50 mm.	1	Vertically falling dripping water	Vertically falling drops of water must not have any damaging effects.
2	Medium-sized foreign bodies	Protection against contacting active parts or parts in motion inside the equipment with one's fingers. Protection against intrusion of solid foreign bodies with a diameter larger than 12 mm	2	Diagonally falling dripping water	Drops of water falling at any angle up to 15° to the perpendicular must not have any damaging effects.
3	Small foreign bodies	Protection against contacting active parts or parts in motion inside the equipment with tools, wires or similar things with a diameter larger than 2,5 mm. Protection against intrusion of solid foreign bodies with a diameter larger than 2,5 mm.	3	Sprayed water	Drops of water falling at any angle up to 60° to the perpendicular must not have any damaging effects.
4	Granular foreign bodies	Protection against contacting active parts or parts in motion inside the equipment with tools, wires or similar things with a diameter larger than 1 mm.	4	Splash water	Water splashing against the equipment from all sides must not have any damaging effect.
5	Dust deposit	Complete protection against contact with energised parts or parts in motion inside the equipment. Protection against dangerous dust deposits. The intrusion of dust is not completely prevented, but dust must not enter at such a rate that the functioning is affected.	5	Jet of water	A jet of water from a jet nozzle directed towards the equipment from all sides must not have any damaging effects.
6	Dust intrusion	Complete protection against contact with energised parts or parts in motion inside the equipment; protection against dust intrusion	6	Flooding	Water must not permeate at such a rate that it may cause damages in case of temporary floodings, e.g. caused by choppy seas.

Example: IP 54

first code digit = 5	protected against dust and protected with a wire against access to endangered parts.
first code digit = 4	protected against splash water

If you should have any questions - please contact us!

7	Dipping	Water must not permeate at such a rate that it may cause damages if the equipment is dipped in water under the determined pressure-/time conditions of 0,15 – 1m.
8	Immersion	Water must not permeate at such a rate that it may cause damages if the equipment is immersed in water under determined conditions..
9K	High pressure-/steam jet cleaning	Water directed against the equipment from all sides under high pressure must not have any damaging effects

The above statements do not absolve our customers from testing the suitability for the intended area of application in each case. Our products are at any time subject to technical alterations without prior notice. Every liability is disclaimed with respect to application technology advice. The publishing of this form is not registered and is therefore not subject to the revision service. For this reason, please always verify that the latest version is available.

Additionally, we refer to our general terms and conditions, which can be viewed in their current form under www.WoehrGmbH.de, as well as the corresponding copyright information of our enterprise, protective note for documents according to DIN 34, Copyright by Richard Wöhr GmbH, D-75339 Höfen/Enz