

## NICKEL PTFE

Self-lubricating, anti-adherent coating.

NICKEL PTFE coatings are composite electroless nickel coatings in which sub-micron PTFE particles are incorporated in uniform distribution.

Co-deposition makes it possible to meet the demands of simultaneous functionalities and thus offers a good compromise between the properties of electroless nickel and the properties of PTFE.

### CHARACTERISTICS:

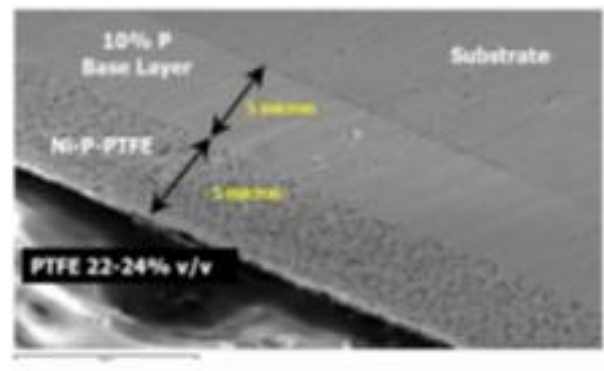
- Self-lubricating
- Low coefficient of friction
- Excellent anti-adherent properties
- Good wear resistance, good corrosion resistance

The manufacturing process makes it possible to adjust the PTFE content of the coating (3 to 11% by mass) and to control the dry lubrication properties or anti-adherent properties.

The hardness of the coating is between 250 and 350 HV.

Post-deposition heat treatment increases this hardness to between 350 and 450 HV.

Combined with an electroless and electrolytic nickel sub-layer, this duplex system also provides increased resistance to corrosion and wear. This combination of properties can be used as an alternative to cadmium or chromium coatings in applications such as connectors, fasteners, etc.



### SURFACE CONDITION

The NICKEL PTFE coating uniformly reproduces the surface finish of the substrate on which it is deposited. Co-deposition of polytetrafluoroethylene PTFE particles, suspended in the electroless nickel bath, produces uniform surfaces.

### SUBSTRATES SUITABLE FOR TREATMENT

- Steels and cast irons
- Stainless steels
- Aluminium and alloys
- Copper and alloys

### ENVIRONMENTAL DIRECTIVES

Complies with directives 2000/53/EC (ELV) 2002/95/EC (RoHS) and 2002/96/EC (WEEE)

### NICKEL PTFE (Phosphorus content 7 to 10%)

PTFE content	Thickness	Hardness	Treatment temperature	Maximum temperature of use	Coefficient of friction (for information only)	Electrical resistance
3 to 11% by mass  (11 to 33% by volume)	6 to 10 $\mu\text{m}$	250 to 350 HV  350 to 450 HV after T. HT 2 h at 180°C	86 to 92°C	310 to 330°C	0.05 to 0.20  Based on the PTFE content	150 to 250 $\mu\Omega/\text{cm}$