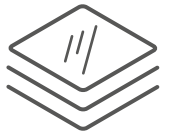


Electroless nickel coatings

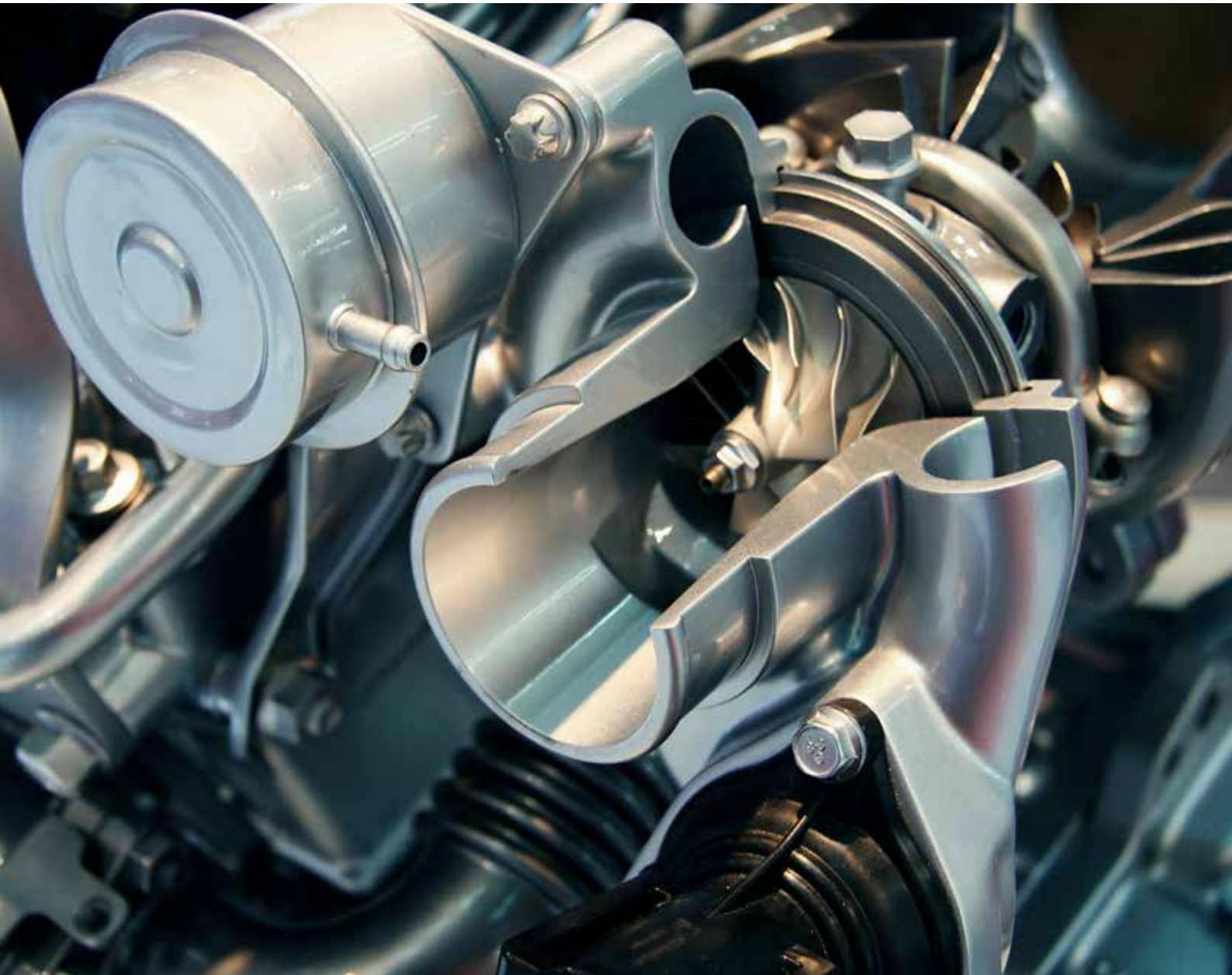
Extremely functional solutions



General Metal Finishing

Electroless nickel

atotech.com



Our electroless nickel solutions portfolio

Electroless nickel is the preferred choice when complex shapes, deep recesses or internal surfaces impede the application of a technically and economically efficient electroplated protective layer. Such coatings are widely used in many industries. MKS' Atotech has a strong portfolio of state-of-the-art high, medium and low-phosphorus electroless nickel solutions – the perfect solution for any and every requirement.

High-phosphorus electroless nickel

High-phosphorus electroless nickel coatings have excellent wear and corrosion resistance, are non-magnetic and diffusion weldable.

- Amorphous structure, non-magnetic
- Pit-free
- Highest-possible corrosion protection in acid environments
- High resistance to a variety of chemicals
- Compressively stressed
- Higher electrical resistivity and lower thermal expansion
- Semi-bright finish

Nichem® HP 1151: A high-phosphorus electroless nickel process with excellent stability and outstanding corrosion resistance, built on patented technology with a unique stabilizer system designed to operate up to 6 MTOs with extraordinary bath stability. The lead and cadmium-free formulation of Nichem® HP 1151 meets all ELV, RoHS and WEEE requirements.

Medium-phosphorus electroless nickel

Medium-phosphorus electroless nickel coatings are produced with high plating rate and provide a decorative surface appearance. They are most commonly used for all general purpose wear and corrosion resistance applications due to the high plating rate of the process.

- Different phases, partly nano-crystalline
- Good coating hardness (approx. 550–650 HV_{0.1}) and wear resistance
- Phosphorus content 7-9%
- Very bright deposit

Nichem® MP 400: A fully bright, ELV, RoHS and WEEE compliant mid-phosphorus electroless nickel capable of standing up to the highest production demands. The super bright electroless nickel process provides coatings of very high luster and consistent appearance over the whole bath life. It exhibits excellent contact initiation on brass and copper, and consistent brightness throughout the bath life.

Low-phosphorus electroless nickel

Low-phosphorus electroless nickel coatings are used for electrical conductivity, soldering, wire bonding and adhesive and abrasive wear applications requiring a high degree of hardness.

- Crystalline structure
- Good corrosion protection in alkaline environment
- Excellent coating hardness (approx. 650–750 HV_{0.1})
- Superior wear resistance
- Compressively stressed
- High plating rate

ELeVEN® LP 350: A low-phosphorus electroless nickel process, providing a deposit with a high level of hardness and outstanding wear resistance. The fast plating speed and long bath life ensure cost-effective production. This technology is completely free of metal stabilizers and fulfills all ELV, RoHS and WEEE requirements.



Combining functionality and sustainability



Backed by years of experience in electroless nickel plating, MKS' Atotech develops solutions that enable industries to meet increasingly demanding requirements. With a strong commitment to sustainability, Atotech continues to pioneer the transition of the plating industry towards environmentally responsible practices and currently offers a full range of electroless nickel processes that meet and exceed all national environmental regulations. MKS' Atotech electroless nickel processes are used in a wide range of industries, such as automotive, oil and gas, consumer electronics, construction and heavy machinery.



From pretreatment to post-treatment

MKS' Atotech offers the full spectrum of processes – including electroless nickel, composite coatings, post-treatments and pretreatment.



Boost electroless nickel plating productivity

MKS' Atotech EDEN[®] electro dialysis technology for electroless nickel plating is designed to maintain steady state operation by the removal of by-products from the bath ensuring that consistent quality over a potentially unlimited bath life is achieved. EDEN[®] provides the highest level of plating quality with reduced chemical usage and waste leading to lower operating cost. For more than 10 years, EDEN[®] is successfully operating around the world.

End markets and industries MKS serves



Automotive



Sanitary



Heavy machinery



Construction



Household appliances



Energy

