ÇINKOSAN

Yüzey Kaplama Teknolojileri

e-Catalogue

-2026-

ALKALINE ZINC PLATING

Demand for Alkaline Zinc Plating is increasing constantly, due to the maximum corrosion resistance it provides on metal part surfaces used in industrial applications, bright zinc plating achieved across a wide current density range, and its more economical nature compared to other plating processes. Our facility responds to the demands of the automotive and general fasteners industry with a capacity of 40 tons per day through Alkaline Zinc Rack Plating and 35 tons per day through Alkaline Zinc Barrel Plating. These systems, which help achieve environmentally friendly, clean surfaces, do not contain strong complexing agents that are hazardous to water and are cyanide free. Thanks to the coating thickness distribution formulation, 100 percent homogeneous coating is achieved on surfaces; problems such as build up, residue and blistering that may occur on complex shaped parts are not seen with this process. It also coats cracks and pores on metal surfaces perfectly, where present. For efficient and long lasting, reliable corrosion protection, we also offer various lacquer and passivation options that can be applied over the zinc coating. Every process we carry out is continuously analyzed and recorded in our laboratories.

ALKALINE ZINC PLATING LAYERS

- Topcoat Options
- Cr^{3+} Passivation
- Alkaline Zinc Plating
- Base Material

ALKALINE ZINC NICKEL PLATING

Alkaline Zinc Nickel Plating provides excellent adhesion and high corrosion resistance for parts operating at high temperatures. It offers the highest level of protection against red rust and shows the highest wear resistance compared to other zinc alloy platings. It is suitable for use on hardened steels and ensures homogeneous coating thickness on all surfaces. Being cyanide free, it is an environmentally responsible plating process. Çinkosan carries out this plating, which is also suitable for automotive standards, with a nickel content of 12 to 15 percent and a capacity of 12 tons per day at our surface coating barrel facilities. For efficient and long lasting, reliable corrosion protection, we also offer various lacquer and passivation options that can be applied over the zinc nickel coating. Every process we carry out is continuously analyzed and recorded in our laboratories.

ALKALINE ZINC-NICKEL PLATING LAYERS

- Topcoat Options
- Cr^{3+} Passivation
- Alkaline Zinc-Nickel Plating
- Base Material

ALKALINE ZINC IRON PLATING

Alkaline Zinc Iron Plating is a highly efficient and easily applicable process widely used in the global industrial sector. The zinc iron alloy provides excellent corrosion protection and a smooth coating thickness thanks to its quality. Being cyanide free, the application process is environmentally responsible, and wastewater treatment is easier compared to other zinc alloy platings. Excellent coating thickness provides high corrosion protection in black and grey tones for automotive parts and complex shaped pieces. Alkaline Zinc Iron Barrel Plating is applied at our facility with a capacity of 20 tons per day. For efficient and long lasting, reliable corrosion protection, we also offer various lacquer and passivation options that can be applied over the zinc iron coating. Every process we carry out is continuously analyzed and recorded in our laboratories.

ALKALINE ZINC-IRON PLATING LAYERS

- Topcoat Options
- Cr^{3+} Passivation
- Alkaline Zinc-Iron Plating
- Base Material

ACID ZINC PLATING

Acid Zinc Plating is an electrolytic surface finishing process applied in a zinc chloride based, medium acidic bath. Thanks to its high brightness and excellent throwing power, a uniform and aesthetic coating thickness is achieved even on parts with complex geometries. Its very good metal distribution, flexibility even at higher coating thicknesses, and ability to operate across a wide current density range allow it to adapt easily to different part geometries. Çinkosan applies Acid Zinc Plating via the barrel process, offering a highly efficient, bright and consistent surface, particularly for small and medium sized fasteners. For efficient and long lasting, reliable corrosion protection, we also offer various lacquer and passivation options that can be applied over the acid zinc coating. Every process we carry out is continuously analyzed and recorded in our laboratories.

ACID ZINC PLATING LAYERS

- Topcoat Options
- Cr^{3+} Passivation
- Acid Zinc Plating
- Base Material

ZINC PHOSPHATE PLATING

Zinc Phosphate Plating provides relatively short term protection against corrosion but forms an excellent base for lubrication and paint processes. Applied to iron, steel and galvanized parts to prepare a surface suitable for paint, zinc phosphate plating gains its protective properties from the oils applied afterward, and increases the impact resistance and flexibility of the paint. It is preferred in the automotive, electronics, white goods, machine manufacturing, pipe, wire and hand tool industries, and is the most suitable plating method before powder coating and cataphoresis for parts used under corrosive conditions. Depending on the plating duration, it can be light or dark grey. When applied before painting, it increases paint quality by up to 90 percent, because the rough layer formed on the surface after zinc phosphate plating allows the paint to adhere better. Once the paint has dried, the surface cannot be scratched by any cutting tool. Zinc Phosphate Plating is applied at our facility with a capacity of 10 tons per day.

ZINC PHOSPHATE COATING LAYERS

- Protective Oil
- Zinc Phosphate Plating
- Base Material

MOLYKOTE®

Molykote® brand lubricants have been developed to eliminate lubrication problems in the automotive industry. Compared to other lubricants, Molykote® offers more economical application conditions and long service life, dry and clean lubrication unaffected by dust, dirt and moisture, lifetime use against aging, evaporation and oxidation, protection against rust even on surfaces without a surface treatment such as galvanization, and controlled coating thickness. The coating covers the entire surface roughness and optimizes friction under heavy load and demanding operating conditions for metal to metal, metal to plastic or plastic to plastic contacts. Molykote® chemicals consist of a mixture of resin and solvent containing dispersed solid lubricant particles, namely MoS2 (molybdenum disulfide), graphite or PTFE. Each product is customized by adjusting the concentration of these solid lubricants to serve the industry's various coating requirements. Çinkosan is the authorized representative of Molykote® Coating and offers Molykote® 3400A and Molykote® D-708 chemicals in Türkiye.

Molykote® 3400A Anti-Friction Coating is a solid, dry lubricant used as an anti-corrosion agent in automotive, construction and agricultural equipment applications. It is also used as a lubricant in contaminated environments, at low speeds, under high loads and in applications requiring repeated assembly. Molykote® 3400A offers excellent lubrication and corrosion protection, good solvent resistance, high load carrying capacity, excellent adhesion to metal, a low coefficient of friction and high resistance to oil and fuel. This product is widely used in parts such as car lock mechanisms, lock components and door hinges.

Molykote® D-708 Anti-Friction Coating is a liquid and dry lubricant used to protect plastic to metal and metal to metal assemblies from corrosion under low and medium loads. This advanced material offers excellent wear protection and a low coefficient of friction. It is also suitable for automotive applications such as seat belt components, door lock mechanisms and door parts, disc brake springs, springs, hinges, bolts, pins and washers.

ZINTEK®

Zintek® coatings are lamellar microstructured layers with a high zinc and aluminum content, applied to metal surfaces without electric current and providing cathodic protection against corrosion. They sacrifice themselves in corrosive environments to provide cathodic protection, offering high corrosion resistance that can be further enhanced with additional electroless coatings applied over them. They are highly suitable for use on hardened steels. Electrogalvanized coatings on steels with a tensile strength above 800 MPa carry a risk of hydrogen embrittlement and resulting stress corrosion. Since Zintek® coatings are applied using an electroless method and do not come into contact with acid during pretreatment, they carry no risk of hydrogen embrittlement, allowing them to be used safely on high hardness steels. No heat treatment step is required afterward to remove hydrogen embrittlement, so no additional heat treatment cost is incurred. Different friction coefficients and colors can be applied to the surface. The process generates no wastewater and complies with environmental regulations such as RoHS, WEEE and EU directives, making it an environmentally friendly process. Çinkosan is the authorized representative of Zintek® Coating in Türkiye and carries out 50 tons of daily production with Zintek® 200 and Zintek® 300B.

Zintek® 200 is a zinc flake plating chemical manufactured by ATOTECH, Germany, and is a grey colored base coat. With top coats applied over Zintek® 200 as a base coat at our facility, the desired friction coefficient range and red rust resistance exceeding 1,000 hours can be achieved.

Zintek® 300B is a zinc flake plating chemical manufactured by ATOTECH, Germany, and is a black colored base coat. The black color is achieved by applying a black top coat over the silver colored base coat used in current processes; without this, impacts and friction can reveal the silver base coat underneath. With our process developed to eliminate this issue, we achieve both corrosion resistance and a homogeneous black finish.

Inorganic Top Coats: Zintek® Top is a mineral top coat, free of chromium, water based and reactive; it increases corrosion resistance and mechanical properties and has a thin layer thickness of 0.5 to 1 micron. We can also achieve the desired friction coefficient range with our inorganic lacquer applications containing lubricant content, such as Zintek® Top LV at 0.09 to 0.15 and Zintek® Top LF at 0.12 to 0.18.

Organic Top Coats: Techseal Silwer WL is an organic, silver colored top coat, free of Cr(VI), water based and increases chemical resistance. Techseal Black SL is an organic, black colored top coat, free of Cr(VI), solvent based and increases chemical resistance.

All of our applications are carried out on the ZT 16 Planetary System machine, sourced from Spain, which helps prevent issues considered common faults in the industry, such as filling of Allen key sockets and torque recesses and buildup between threads.

ZINTEK® LAYERS

MAGNI®

Magni® 565 is a two coat, chrome free plating consisting of a zinc rich inorganic base coat and an aluminum rich organic top coat. This two coat system is formulated to resist automotive fuels and fluids. This formulation offers excellent bimetallic corrosion resistance in the fastener industry, paintability, compliance with RoHS, WEEE and ELV environmental regulations, and low cost. Magni® 565 is the plating of choice for many leading global automotive manufacturers. Çinkosan is the authorized representative of Magni® Coating in Türkiye and carries out 50 tons of production per day with Magni® 565.

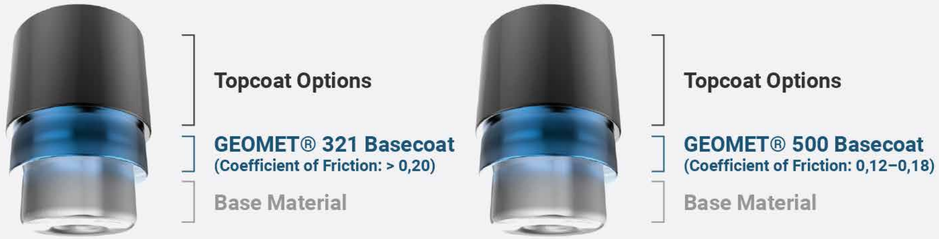
MAGNI™ LAYERS

- Topcoat (5–8 µm)
- Basecoat (8–10 µm)
- Base Material

GEOMET®

Geomet® is a water based, chrome free, high performance zinc flake coating technology composed of zinc and aluminum flakes. Offering exceptional corrosion resistance despite its thin film structure, this system is widely preferred worldwide in automotive, fastener and heavy industry applications. Çinkosan applies Geomet® 321 and Geomet® 500 base coats together with the PLUS top coat range, allowing corrosion resistance and friction coefficient to be optimized for each specific application. With an adjustable film thickness of 6 to 15 microns, it offers salt spray test performance ranging from 720 to 2,000 hours and maintains its performance up to 300 degrees Celsius. Geomet® 500 provides a friction coefficient of 0.12 to 0.18 on its own thanks to its self lubricating structure, while Geomet® 321 combined with the PLUS top coat range provides a friction coefficient of 0.06 to 0.20. It does not cause hydrogen embrittlement, contains no hexavalent chromium, and complies with REACh, RoHS, ASTM F1136, EN 13858 and EN ISO 10683 standards.

GEOMET® LAYERS



PRECOTE®

Precote® is a microencapsulated functional coating technology applied to screws, bolts and other fasteners prior to assembly. The microcapsules break under pressure and shear during assembly and become active, creating a reliable locking effect that prevents fasteners from loosening; depending on the application, it can also provide a sealing function. Applied in advance during production, Precote® coatings eliminate the need for additional adhesives during assembly, speeding up production processes and providing high repeatability in assembly quality. Çinkosan applies the standard precote® 85, the fast curing precote® 85-3 and precote® 85-8 for small threads, depending on thread size and application conditions. Precote® coating can be applied over bare base material as well as over Cr3+ passivated zinc/zinc nickel plating or Geomet® coating, creating a layered protection system. It offers a stable thread friction coefficient of 0.10 to 0.15, is suitable for operating temperatures from minus 60 to plus 170 degrees Celsius (up to plus 200 degrees Celsius for certain types), and shows high resistance to many automotive fluids such as engine oil, gasoline and brake fluid. It is widely used in the automotive, electronics, white goods and e-mobility sectors.

PRECOTE® LAYERS

Alkaline Hot Degreasing

Alkaline Hot Degreasing is a chemical surface preparation process applied to remove oil, grease, cutting fluids, dust and other organic contaminants from metal surfaces. The surfactants and alkaline chemicals it contains effectively remove dirt and oil from the metal surface; it is a standard pretreatment process on phosphating and plating lines, particularly for parts entering zinc, phosphate and galvanizing baths. On uncleaned surfaces, coating quality can decrease, adhesion problems can occur and corrosion resistance may not reach the desired level, which is why the success of surface coating processes largely depends on this stage. Çinkosan applies Alkaline Hot Degreasing through both dip and spray methods, continuously monitoring bath concentration, temperature and process time to ensure every part reaches optimum surface cleanliness.

Sand Blasting

Sand Blasting is a mechanical surface cleaning process applied to remove rust, oxide layers, old coating residues, weld slag and other surface contaminants from metal surfaces. Abrasive materials propelled at high speed with compressed air clean and roughen the surface, preparing it for subsequent coating processes. This allows paint, metal coatings and other protective applications to bond more strongly to the surface, significantly extending the service life of the parts. Çinkosan offers high quality standards in surface cleaning through the barrel (tumbling) blasting method, processing large numbers of parts together in a consistent and homogeneous manner.

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