The YDK group contributes to the efforts of sustainable society through an environmentally friendly manufacturing process. Our mission is to develop new surface finishing technology that will be used to create higher performing products with improved efficiency and reliability. Furthermore, we have created the R&D division to positively respond to the ever-changing needs and requirements of society. We are proud that our technology is being widely used in many fields to support society’s infrastructure. In addition, our group promotes the use of an environmentally friendly manufacturing process.

YDK is deeply committed to contributing to the society as well preserving the environment and being an active partner with our local communities. At the YDK Group, our policy is to focus our efforts on the development of new technologies that will revolutionize the future of the surface finishing industry.

The motto

1. Maximize a spirit of dedication to our company’s business
2. Improve the ability to value the quality of products
3. Building a relationship of trust with the people
4. Building up confidence, compassion and kindness
5. Make strides towards the future with harmonious cooperation

CEO comment

YDK has offered science activities to a local elementary school and junior high school along with a community center in hopes to convey the pleasures of science to future generations. Our most popular program, “Making Gold Accessory”. YDK has also actively supported classical music concerts since 1989.

Contribution to the Local Community Through Various Activities

- Sincerity
- Honesty
- Conscientiousness

[Corporate Philosophy]

Contribute to society with surface treatment technology
The YDK group contributes to the efforts of sustainable society through an environmentally friendly manufacturing process.

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CEO comment
Kanji Yoshino

Company policy
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Contribution to the Local Community Through Various Activities
YDK has offered science activities to a local elementary school and junior high school along with a community center in hopes to convey the pleasures of science to future generations. Our most popular program, “Making Gold Accessory”, YDK has also actively supported classical music concerts since 1989.
YDK offers a variety of surface treatment processes on any kind of materials with high production skills and systems. Micron chromium plating, Zinc-alloy plating with electroless Nickel underlayer, Electro-magnetic interference (EMI) shielding and decorative chromium plating are our main products and which are indispensable surface finishing processes for manufacturing of automobiles and electronics devices. The decorative chromium plating and EMI shielding plating on plastics which has a lengthy track record are used for many years in major manufactures. Moreover, our plating process can be applicable to the special materials such as heavy weight plastics with Zinc powder and powder metallurgy product.

**YDK meets our customer’s various demands with high production ability and quality management system.**

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**Micron chromium plating**

Micron chromium plating is one of the candidates as a hard coating process for precision components. This process can well control the thickness of the film and its shapes. We are already supplying this technology to a wide range of industries and applications to include automotive parts, construction machinery and heavy industry. The knowledge and skills derived from years of experience have enabled YDK to move into the area of specialized application such as injector parts and pump parts for new type of gasoline engines.

**Zinc-alloy plating • Electroless Nickel plating**

YDK’s Zinc-alloy plating is offered to solve corrosion problems in the automotive parts industry. Depending on the base material and application, several types of zinc-alloy plating have now been introduced. There are: ZnNi, ZnSn and the zinc-alloy on electroless nickel plating. Our electroless nickel plating can be applied to varied materials and shapes, such as powder metallurgy product.

**Hard chromium plating for a specific material**

Due to our continuing investment and improvement in hard chromium plating equipment, we can provide wide range of plating for extremely large size parts such as valves for pipelines, to small size parts which are mentioned above. Moreover, specific machined part which made from the carbon steels and/or the casting steels are acceptable.
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YDK meets our customer's various demands with high production ability and quality management system.

### Major plating technology

- Hard Chromium plating
- Decorative Chromium plating
- Electroless Nickel plating
- Electro Nickel plating
- Zinc-alloy plating
- EMI shielding plating
- Other plating

### Electro-magnetic interference (EMI) shielding

Surface treatments such as electroless plating over plastic give the equivalent shielding effect of metal. Shielding effect measurements are calculated by the ratio of energy approaching the incident side of a shield to that transmitting the shield and is commonly expressed in decibels (db), with the ideal range being between 80-100db. The typical plating process of shielding is to plate electroless nickel of 0.25 μm over 1μm electroless copper plating.

### Decorative chromium plating on plastics

Our production equipment is designed to deal with mass production as well as short run productions. We can also provide a wide range of plating for large and small products. We have history of delivering outstanding business results in Auto industry, toiletry, and Amusement devices industry. Our factory uses an integrated manufacturing system standardized from injection molding on through to plating.

### YOSHINO DENKA KOGYO VIETNAM CO., LTD

Yoshino Denka Kogyo Vietnam (YDKV) was founded in 2012 at Hai Phong, Vietnam. YDKV is providing hard chromium plating and electroless nickel plating to the automobiles and the electronics manufacturing. It products are the equivalent to the Japan quality.
YH offers a wide range of heat-treating services, such as Gas carburizing, Gas oxidizing nitriding and Induction hardening, for construction and automobile industries using the best plant and processes available in the region. The highly skilled staff, combined with modern plant and equipment, assures our customers of the highest standards in the manufacture and heat treatment of their components.

**SOFTHIZUMICK (Low distortion Heat Treatment)**

Softizumick is one of an original surface hardening process in which carbon and nitrogen are diffused into the surface of steels. Due to low heat treatment temperature, shape variation is smaller than conventional hardening process. Tight control of carbon and nitrogen concentration, diffusion rates and temperature variables are required to process a component with minimum distortion and achieve optimum mechanical properties.

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**Main heat treatment technology**

- Gas carburizing treatment
- High carbon concentration carburizing treatment
- Low distortion heat treatment (SOFTHIZUMICK)
- Gas carbonitriding treatment
- Gas oxidizing nitriding treatment
- Induction hardening treatment

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**Major Equipment**

Gas Carburizing Furnace

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**PT. YOSHINO HARD INDONESIA**

YHI is hard chromium plating factory specialized in recycling hydraulic cylinder parts for mining use huge excavators. YHI has facilities using integrated manufacturing system for 2-5 m long cylinder rods, stripping plating → removing cracks → pre-plating buffing → chromium plating → finishing buffing. Especially, YHI vertical honing machine is capable of polishing minutely which is providing maximum satisfaction for our customers.
**Trusted production with stable quality control is one of the our support.**

Quality control division has sufficient knowledge and equipment to satisfy the customer demands.

**Quality Control Inspection management system**

**Surface Observations**
- SEM with EDX
- Laser Scanning Microscope
- AFM
- Surface Roughness Tester
- Ultra Micro-Vickers

**Composition Analysis**
- AAS
- UV-Vis with integrating sphere
- HPLC
- ICP-AES
- Capillary Electrophoresis

**Structural Analysis**
- XRD
- FT-IR

**Thickness Measurement**
- XRF
- Coulometric Thickness Gauge
- Electromagnetic Thickness Gauge

**Various Tester**
- Temperature Humidity Cycle Cabinet Tester
- Salt Spray Tester
- CASS Corrosion Tester
- Impact Tester
- Hardness Tester (Rockwell, micro-vickers, Shore)

**Others**
- Electrochemical Measurement Systems
- Laser diffraction Particle size Analyzer
- CP
- CVS

**We are developing new next generation technology, based on over 70 years in surface treatment industry an accumulation of knowledge and skill.**

In order to support and meet new demands, we have the most latest analytical equipment and laboratories in Research & Development Division. We are also developing research topics of their own, such as Gel plating and Catasilver. We have proposal for new surface treatment technology to academic exhibition, through the publication. R & D division actively work for development of innovation technology in surface treatment industry with university, local government and the different type of industries.

![Quality Control Inspection management system](image1)

**Quality Control Inspection management system**

Gel plating

Gel plating with gel type electrolyte is a novel plating process. In this process, pattern can be made directly by ink-jet and stencil printing.

![Gel plating](image2)

**Gel plating**

Catasilver

Catasilver is a candidate as a catalyst for the electroless plating process. Electroless plating produced with catasilver shows high adhesion strength even on the glass substrate.

![Catasilver](image3)

**Catasilver**

**Research and development**

**Surface Observations**

**Composition Analysis**

**Thickness Measurement**

**Various Tester**

**Others**

**Gel plating**

**Catasilver**
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Company Profile

Company Name  Yoshino Denka Kogyo, Inc.
Foundation  5 January, 1935
President  Kanji Yoshino
Capital  99,990,000 yen

www.yoshinodenka.com

Location

YOSHIKAWA
KOSHIGAYA

SAITAMA
JAPAN

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