

## A high performance specialty chemical company

Enthone® makes everything you see, and many things you don't see, last longer, work better and look more beautiful. Our coatings add value to a diversity of metals, plastics and other substrates by improving or changing performance characteristics, extending product life, and adding value. Leading OEMs worldwide depend on Enthone to enhance wear and corrosion protection, improve appearance, and enable electronic performance.

Enthone has manufacturing sites, research and development facilities, as well as sales and distribution centers worldwide. With a commitment to quality and customer satisfaction, all Enthone plants are ISO 9001 certified.

Six Sigma methodologies for creating, improving, and maintaining business, as well as technical processes focused on increasing customer value are employed throughout the company. Our focused team of experienced Black Belts and Green Belts are committed to an integrated partnership approach that addresses business challenges.

We deliver enabling technologies that meet ever-changing market dynamics that address environmental compliance issues associated with the following technology requirements:

- Lead-free
- Cadmium-free
- Halogen-free
- Cyanide-free
- Hexavalent-chrome-free
- Nickel-free

### Functional Coatings for Wear and Corrosion Resistance

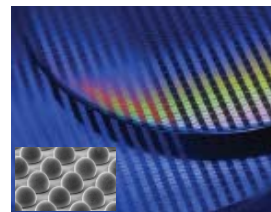


Enthone functional coatings are critical components on virtually every car, truck and bike on the road today. If it rolls, flies, sails or moves, Enthone is there. Our coatings deliver corrosion protection and wear resistance on automotive parts, plumbing and hardware parts, oil and gas industry equipment, medical instruments, aerospace and other industrial components. Enthone coatings improve the quality, appearance and corrosion performance of ferrous metals used for automotive components, building hardware and fasteners.

### Semiconductor Interconnect Materials

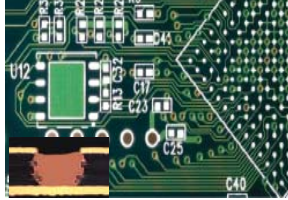
Enthone provides service and support to the world's major semiconductor manufacturers, device manufacturers and OEMs. Our partners rely on us to provide enabling technologies that maximize yield, while delivering consistent, reliable performance. Products include:

- Copper damascene deposition processes for wafer fabrication
- Cobalt-based chemistry for emerging capping applications.
- High performance wafer level packaging plating chemistries for wafer bumping (gold, tin, lead-free and lead-containing tin alloys), copper pillar, redistribution (copper, gold), under bump metallization (nickel and copper), and through silicon via (copper)



## PWB Fabrication Chemistries

ENTHONÉ® PWB fabrication chemistries are widely specified and used by the world's leading PWB fabricators, assemblers and OEMs. Our lead-free final finishes are the industry's leading and most trusted alternatives to hot air solder leveling to meet today's most complex PWB challenges. Enthone desmear and direct metallization processes, acid coppers and oxide alternatives have become the industry standards for high yields at the lowest cost of ownership.



## Microelectronics Materials

Enthone offers a full range of lead-free component finishes for connectors, leadframes and other microelectronic applications. Backed by global applications expertise, our tin, tin-lead and palladium processes for lead metallization address tin whisker formation, solderability failures and other reliability problems.



## Photovoltaic Chemistries

Enthone PV electroplating chemistries for solar cell manufacturing increase cell efficiency, while lowering production costs and increasing throughput and yield.



## Decorative Coatings

As fashion is constantly changing, value-added Enthone decorative coatings become more popular. From clothing fasteners, watches, spectacle frames, high fashion accessories, writing instruments, custom jewelry, to plain gold jewelry manufacturing, our plating and electroforming processes make them look and perform their best!



# High performance specialty chemistry, coatings and materials

## Trusted Brands

Listed below are just some of the brands our customers have come to trust. For more information on any Enthone technology, contact your local representative.

## Semiconductor Interconnect Materials

ViaForm® wafer copper plating  
MICROFAB® wafer bump gold, silver, tin and tin-lead processes

## Functional Coatings for Wear and Corrosion Resistance

UDIQUE® plating on plastics  
PERMA PASS® trivalent passivates  
ENfinity® electroless nickel  
ZINCROLYTE® zinc alloy systems  
ENTHOBRITE® zinc plating systems  
ENSEAL® topcoats  
ANKOR® hard chrome  
PEARLBRITE® satin nickel

## Printed Wiring Board Fabrication Chemistries

AlphaSTAR® immersion silver  
ENTEK® PLUS HT organic solderability preservatives  
ORMECON® CSN tin nanofinishes®  
AlphaPREP® oxide replacement systems  
ENVISION® HDI direct metallization

## Decorative Coatings

SEL-REX® precious metals  
BRONZEX® white bronze  
ARTFORM® gold electroforming  
ECOLOY™ low karat gold processes  
SILVREX® silver processes

## Microelectronics Materials

STANNOSTAR® tin and tin-lead processes  
PALLADEX® palladium and palladium-nickel processes

## Photovoltaic Chemistries

HELIOFAB® processes for solar cell manufacturing

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