

# HILLOCK

ANODIZING, INC.

## ENGINEERED PERFORMANCE COATINGS



**Medical**



**Military**



**Aerospace**



**SOLUTIONS, RELIABILITY AND EXCELLENCE SINCE 1969**

[www.HILLOCKANODIZING.com](http://www.HILLOCKANODIZING.com)

## Coating Process Sheet

## Mil-Spec (MIL, AMS, ASTM) and Engineered Performance Coatings

### **Sulfuric Acid Anodize Mil-A-8625, Type II, ASTM, AMS**

- Black Anodize
- Pantone and Fed-STD-595 Color Matching
- Clear and Color Anodize (reference color chart)
- Steriscreen®, Steridize®, Stericlave®

### **Hardcoat Anodize Mil-A-8625, Type III, ASTM, AMS**

- Hardcoat with PTFE (AMS 2482 Type I, Mil-A-63576)
- Sealed and Unsealed
- Steriscreen® HC, Steridize® HC, Stericlave® HC
- HT-HC coloring system (repeatable vibrant colors with hardcoat properties)
- Pantone and Fed-STD-595 Color Matching

### **Chromic Acid Anodize, Mil-A-8625, Type I, ASTM, AMS**

- Undyed or Black
- Pastel Color Shades

### **Chromate Conversion Coatings, Mil-DTL-5541, Mil-C-5541 (Type I and Type II)**

- Non-RoHS: Clear and Gold  
Known as Alodine or Iridite
- RoHS Compliant – Trivalent Chromate (clear only)

### **Passivation, ASTM A967, AMS 2700, QQ-P-35**

- 300 and 400 series stainless steel
- 416 ss Etch Guard Process
- Titanium alloys
- In House Water Immersion Testing

### **Electroless Nickel Plating (Mid Phos), ASTM B733, AMS 2404, AMS-C-26074**

- Aluminum, Steel, Stainless Steel
- Invar (ENvar process for maximum adhesion)
- Baking Capabilities

## Engineered Performance Anodic Coatings

### **Steriscreen®**

- Excellent Chemical Resistance (alkaline, acid, disinfectant detergents)
- Specially formulated to promote maximum adhesion of printed graphics (silk screen, pad print, inkjet, etc).
- Typically undyed (clear)
- Conforms to Mil-A-8625 Type II or III and equivalent specs
- Available in harder version (denoted HC)

### **Steridize®**

- Excellent Chemical Resistance (alkaline, acid, disinfectant detergents)
- Compatible with *Embedded Graphics* printing.
- Standard and custom colors available.
- Conforms to Mil-A-8625 Type II or III and equivalent specs
- Available in harder version (denoted HC)

### **Stericlave®**

- Maximum Chemical Resistance (alkaline, acid, detergents) and Autoclave Smut Resistance
- Compatible with *Embedded Graphics* printing.
- Standard and custom colors available.
- Conforms to Mil-A-8625 Type II or III and equivalent specs
- Available in harder version (denoted HC)

## Proprietary Engineered Coatings for Medical Applications

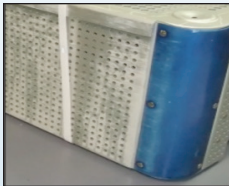
## Stericlave® – Steriscreen® – Steridize®

Hillock Anodizing has developed a family of Engineered Anodic Performance Coatings specifically designed to withstand the harsh chemicals and environments used for Medical disinfectant applications. Using an Advanced Pore Closure (APC) Anodize System, Hillock Anodizing was able to solve the three main failure mechanisms plaguing standard Mil-Spec anodizing.

### Standard Type II and Type III Anodize Failure Methods

- Coating Attack due to Alkaline or Acid Chemicals

Source: Aqueous Wash Disinfectors (typically elevated pH)



- Water spotting and 'smut' formation on dyed coatings

Source: Autoclave utilizing high pressure steam



- Printed graphics delaminate during sterilizing

Source: Chemicals from aqueous wash disinfectors and autoclaving

Before



After



### Steriscreen®

The *Steriscreen®* anodic coating offers **exceptional resistance to high pH washes and maximum adhesion of subsequent graphics (i.e. screen printing)**. Graphics will not delaminate during high pH washes and autoclave. *Steriscreen®* is a great alternative to standard clear anodize and parts can be stored for an indefinite period of time without effecting the adhesion or corrosion resistant properties. *Steriscreen®* is the most cost effective option of all the proprietary coatings and is a direct replacement for standard Mil-Spec Type II undyed anodizing. The 'HC' version offers abrasion resistance similar to standard sealed hardcoat and coating thicknesses of .001-.0025".

### Stericlave®

The most robust of the three APC variations, the *Stericlave®* coating offers a **smut/water-stain free** surface after autoclave in addition to maximum **corrosion resistance to high pH washes**. The coating has proven its ability in the field to withstand 100+ sterilizing cycles consisting of a 10 minute immersion in 12.5+ pH detergent followed by a steam autoclave. All Hillock Standard Colors are available. Embedded Graphics or laser marking are recommended if printing or marking are required. The 'HC' version offers abrasion resistance similar to standard sealed hardcoat and coating thicknesses of .001-.0025".

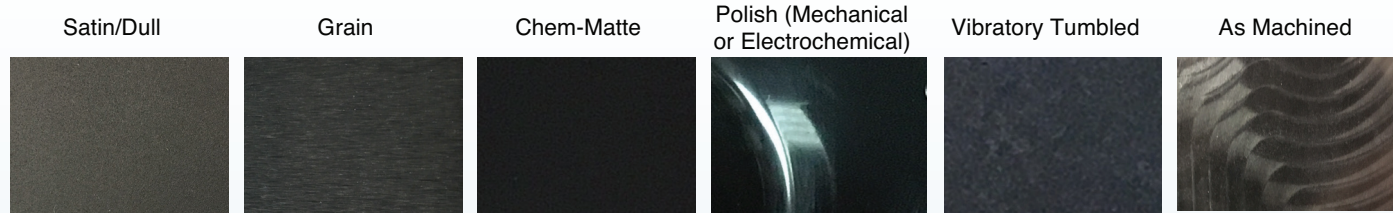
### Steridize®

The original Alkaline Resistant Anodic Coating, *Steridize®* was the first coating to employ the APC Anodize System. *Steridize®* anodic coatings have superior chemical resistance than any standard anodize coating on the market. *Steridize®* is a cost effective replacement for undyed or dyed Mil-Spec Type II anodize coatings. All Hillock Standard Colors are available. Embedded Graphics or laser marking are recommended if printing or marking are required. The 'HC' version offers abrasion resistance similar to standard sealed hardcoat and coating thicknesses of .001-.0025".

## Hillock Anodizing's Industry Leading Capabilities

## Surface Texture Alteration – Anodic Coating Dye Colors Anodic Coating Seal Systems

### Surface Texture Alteration



### Anodic Coating Color Options



### Anodic Coating Seal Options

- Hot Nickel Acetate Seal
- Sodium Dichromate Seal
- Triplex Sealing Systems
- Deionized Water Seal
- Hydrothermal and Mid Temperature Seals
- Polytetrafluoroethylene (PTFE)
- Magnesium Acetate Seal
- Duplex Sealing Systems
- APC Sealing Systems

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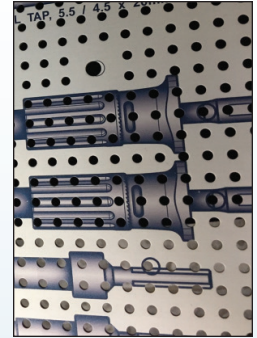
### Part Marking and Printing Options

#### *Embedded Graphics*

- Logos, text or other graphics are embedded directly into the anodic coating. This process differs from conventional topcoat printing because the graphics can never delaminate and cannot chip. The only way to remove the printed graphics is to strip the entire anodic coating.
- Printing Techniques: Silk Screen, Pad Print, Digital Printer, Roll Printing

#### *Topcoat Printed Graphics*

- Logos, text and other graphics are screen printed on top of the anodized coating.
- Typically utilize thermosetting, epoxy based inks.
- Topcoat printed graphics can be removed without stripping the anodize coating.
- Printing Techniques: Silk Screen, Pad Print, Digital Printer, Roll Printing



#### *Laser Marking*

- Logos, text and other graphics are burned into the coating using a laser.
- Recommended for dyed coatings.
- Great option for recessed surfaces.
- Should have post treatment with Hillock LM-Lock to avoid darkening of the mark.

### Precision Masking

- Experts in advanced masking materials and techniques.
- Standardized Work Instructions using proven techniques to ensure consistency and superior workmanship.
- Die Cut Printing Machine for close tolerance masking requirements.
- Design and Manufacture custom masking fixtures.

### Engineering

- Design and Manufacturing: Job Specific rack and masking fixtures.
- Tolerance and Machining size consultation
- Coating selection consultation
- Pre-treatment consultation
- Reverse Engineering
- Project Quotations

## Quality Systems

## Nadcap Accredited to AC7108 Chemical Processing and AC7004 Quality System

Hillock Anodizing, Inc.'s Quality Management System is designed to and operates within the requirements of ISO9000-2008 / AS9100A / AC7108 / AC7004 and applicable customer quality specifications.

Hillock is certified through NADCAP to AC7108 for Chemical Processing and to AC7004 for the company's Quality System. Certifications are available upon request.

### Manufacturing Efficiency Tools

- Process and Equipment Validation – IQ, OQ, PQ
- Statistical Process Control (SPC)
- Gage R&R
- Process Failure Mode Effect and Analysis (PFMEA)
- Flow Diagrams
- Control Plans
- Standardized Work Instructions
- Frozen Processes
- 5S
- Root Cause Analysis
- Lean and Six Sigma Principles

### Measurement & Inspection Tools

- Isoscope (coating thickness analysis)
- Micrometer
- Pin Gages
- Bore Gages
- Bore Micrometer
- Caliper
- Spectrophotometer (Dye Color Analysis)
- In House Color Standards
- pH and TDS Meter
- Coating Weight Analysis System
- Salt Spray Chamber
- Taber Abrasion Tester

### Prime Contractor Approvals



GENERAL DYNAMICS



\* Rockwell Collins, BAE and Raytheon are subscribers to Nadcap Program \*



# HILLOCK

ANODIZING, INC.

## ENGINEERED PERFORMANCE COATINGS

### *About Us...*

Hillock Anodizing, Inc. was founded in 1969 by John J Hillock Sr. with a focus on Aluminum Anodizing, Hardcoat Anodize, Chromate Conversion Coatings and Passivation of Stainless Steel. From our humble beginnings in a small 2500 square feet building 48 plus years ago, we have grown to two locations totaling 38,000 square feet, in Northeast Philadelphia.

We are a quality and service driven company that recognizes the urgent delivery and critical tolerance requirements to which your parts must be finished. Our Quality Commitment is evidenced by our achievement of the prestigious NADCAP Accreditation ( National Aerospace and Defense Contractors Accreditation ), that only select Metal Finishers have achieved. In addition we have earned process approvals from numerous Aerospace, Defense, Medical and major Commercial and Industrial Manufacturers.

Hillock Anodizing is still owned and operated by second and third generation Hillock family and we proudly employ many employees with 25 to 30 plus year tenure that have shared and contributed immensely to our growth and business journey.

All of us at Hillock Anodizing will always service our customers with a commitment to excellence. We will never forget the opportunity that all of our fine customers have given us and cherish the loyalty and friendships that have forged from these business relationships.

### *Our Commitment...*

- Provide customers with the highest quality products and services
- Provide products and services in the most timely manner on or before customer due date.
- Provide open communications with customers in order to form a “supplier-customer team” relationship, which will allow customers’ needs and requirements to be met or exceeded.
- Provide a system of continuous process improvements.
- Provide a system of employee involvement, motivation, training, empowerment, and team building.
- Utilize statistical process control techniques to allow employee contribution in problem solving.



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ANODIZING, INC.

## ENGINEERED PERFORMANCE COATINGS

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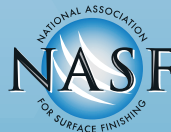
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International Hard  
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