



PASSIVATION SERVICES



Stainless Steel Passivation

ASTM A380 describes stainless steel passivation as, "remov[ing] exogenous iron or iron compounds from the surface of stainless steel by means of chemical dissolution, most typically by treatment with an acid solution that will remove the surface contamination, but will not significantly affect the stainless steel itself." In addition, it also describes passivation as "the chemical treatments of stainless steel with a mild oxidant, such as a nitric acid solution, for the purpose of enhancing the spontaneous formation of the protective passive film."

In lay terms, the passivation process removes "free iron" contamination left behind on the surface of the stainless steel from machining and fabrication. These contaminants are potential corrosion sites that result in premature corrosion and ultimately result in the deterioration of the component if not removed. In addition, the passivation process facilitates the formulation of a thin, transparent oxide film that protects the stainless steel from selective oxidation (corrosion).



Advantages of IFT's Passivation Services

- Awarded preferred supplier status with many industry leading companies
- IFT is a leading authority in stainless steel passivation
- Superior process controls
- More consistent standardization of formulation
- IFT uses only quality certified chemistry
- Superior accuracy, typically exceeds industry standards
- Environmentally responsible company
- "Soft touch" part handling
- Strategic alignments with world-class chemistry suppliers and technical experts
- Greater performance with better value, at a competitive cost
- Many additional, supporting processes for a one-stop source
- In house testing lab



Stainless Steel Passivation Processes

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| Nitric Acid Passivation |
| Citric Acid Passivation |
| Localized Passivation |
| Nitric/Hydrofluoric Acid Treatment |

Example of IFT's Custom Solutions for Customers

Through a collaborative effort with a highly-specialized spring manufacturer and a global nuclear energy prime end user, Imagineering was able to develop a highly controlled cleaning and passivation process to ensure that all contaminants resulting from forming, grinding and heat treatment are properly removed prior to assembly of these critical components into nuclear fuel rod assemblies.

Imagineering's team designed and installed a dedicated "white-room" for precision cleaning, passivation and inspection of custom springs used in Nuclear Fuel applications.



Stainless Steel Passivation Capabilities	
Processes	Testing
Nitric Acid Passivation	Humidity
Citric Acid Passivation	Salt Spray
Localized Passivation	Copper Sulfate
Nitric/Hydrofluoric Acid Treatment	Water Immersion
Commercial processes	Boil Testing
Compliant with Most Specifications	Ferroxyl
Pre-Treatment Operations	Production Volume
Ultrasonic Cleaning	Small precision orders
Ultrasonic Vapor Degreasing	Prototypes
Chemical Descaling	High Volume Production Capacity
Etching	Lead Times
Pickling	Short Lead Times Typical
Substrates	Expediting Available
300 Series	Customer Support
400 Series	Manage Customer's Patented Processes
Precipitation Hardening (PH) Grades	
Specializing in Problem Alloys (440C, 416)	Provide Exclusive Production Work Centers
Exotic alloys / Super alloys	
Titanium	

IFT's Industry Certifications
Registered small business
ITAR Registered
ROHS Compliant
NADCAP Accredited
TS-16949 Registered
AS-9100 Registered
ISO-9002 Registered
ISO-14001 Registered

IFT's Prime Customers
Boeing
Lockheed Martin
Space X
BAE
Caterpillar
General Dynamics
Rock Island Arsenal
NASA
Honeywell
Remington
Borg-Warner
Raytheon
Federal Mogul
Cooper Bussman

Industry Specifications
Some of our 1400+ specs
MIL-DTL-16232
DOD-P-16232
MIL-P-16232
TT-C-490
AMS 2473
AMS 2480
AMS 2481
Mil-S-5002
MIL-STD-171
MIL-PRF-3150

IFT's Services & Capabilities
Electroless Nickel Plating
Type II Class I Anodizing
Dry Film Lubricant Coatings
Phosphate Coating Services
Non-Destructive Testing Services
Passivation Services
Conversion Coating Services
Painting and Special Coatings
Media Blasting

Expanding Capabilities:

IFT frequently works with our customers to add to our capabilities to meet their needs. Our flexibility has allowed us to add processes to our offerings, increase the capacity of our lines for both physically larger parts and larger volume orders, as well as developing entirely new processes to solve the challenging issues our customers face. If you are struggling to find a dynamic growth company with a solution to a problem with part wear or corrosion,

Call IFT Today.



**“Improving lives
by improving
products.”**

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