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New Chemical Process Department offers the following services:

Ultrasonic Cleaning • Vapor Degreasing • Nitric Acid Passivation • Citric Acid Passivation • Pre-Penetrant Etch • Nital Etch • Chemical Descaling • Salt-Spray Testing • High Humidity Testing • Potassium Ferricyanide Testing

Process	Thickness	Comments
Ultrasonic Cleaning		
Used in conjunction with solvents or alkaline cleaners to loosen or remove contaminants from deep recesses and other difficult to reach areas	No dimensional change	Alkaline used to remove oily, semi-solid, & solid contaminants from metals. Performed at elevated temperatures. Parts immersed in solvent at or slightly above room temperature unless otherwise specified.
Vapor Degreasing		
Used on extremely soiled parts	No dimensional change	Hot vapors of a non-chlorinated, halogenated solvent removes grease, oils, and waxes.
Nitric Acid Passivation		
Process to improve the corrosion resistance of austenitic, ferritic, martensitic, and precipitation hardening stainless steels	No dimensional change	Various concentrations and temperature ranges of Nitric Acid with or without additives.
Citric Acid Passivation		
Improves corrosion resistance of stainless steels	No dimensional loss	Low concentrations of citric acid at various temperatures.

Process	Thickness	Comments
Pre-Penetrant Etch		Used on any alloy i.e., Titanium, Magnesium, Inconel, Aluminum
Surface removal of the part to reveal grain structure for penetrant inspection	0.0001" – 0.0002" stock loss	Acidic or Caustic solutions at varying temperatures. Part may be immersed, sprayed, or swabbed with etchant.
Chemical Descaling		Used on any alloy i.e., Titanium, Magnesium, Inconel, Aluminum and Stainless Steel
Removes all surface contaminants resulting from hot-forming, heat treatment or welding	Varied dimensional loss	Acidic or Caustic solutions at varying temperatures. Part may be immersed, sprayed, or swabbed with solution.
Nital Etch		Used on Stainless Steel, Titanium, Aluminum, and Nickel based alloys
Etching process used to expose surface imperfections resulting from the manufacturing process.		Low concentration acid baths
Humidity Testing		
Environmental Testing	No dimensional loss	Typically conducted for 24 – 26 hours at 99% relative humidity May also be used for passivation verification
Salt Spray Testing		
Environmental Testing	No dimensional loss	Conducted for a minimum of 2 hours using a 5% salt solution May also be used for passivation verification
Potassium Ferricyanide Test		
Passivation Post Test	No dimensional loss	Highly sensitive swab test used for passivation verification