

SPS Produces Products for Aircraft and Other Durable Uses

SPS Technologies - Jenkintown specializes in the manufacture of high strength nuts, bolts, and associated products, primarily used in the aerospace industry. All product lines benefit from the culture of quality that has a long history at SPS Jenkintown. Because of this culture, many of our products are manufactured for safety-critical applications that are needed for building aircraft.

Our Manufacturing Processes

- Forging
- Machining
- Milling
- Tapping
- Grinding
- Thread roll
- Computer-controlled heat treating
- Automated plating



Inspection and Corrosion-Resistance Processes

SPS products are processed to meet customer specifications. These processes include treatment for quality inspections and for application of corrosion-resistance plating (necessary for aircraft use). SPS uses the following processes:



- **Etching for inspection and testing:** Pre-cleaning and etching are essential preparation steps to detect surface cracks and defects.
- **Plating:** Plating is a crucial process in aerospace manufacturing to enhance corrosion resistance, wear resistance, conductivity, and overall durability of metal components.
- **Passivation:** A process used to treat aerospace parts, typically made of stainless steel or other corrosion-resistant alloys, to enhance their corrosion resistance.

OVERVIEW OF SPS MANUFACTURING PROCESSES

Chemicals Used in this Process

Within these three processes, various chemicals and other solutions are used. The concentration of the chemical and water-based solutions vary by customer and specifications. Below is a list of the chemicals and the range of diluted concentrations that SPS uses based on customer specifications.

• Albatex	5.1%
• Ammonium Fluoroborate	3.4% to 6%
• Boric Acid	1.7% to 2.5%
• Cadmium Cyanide	0.2% to 5.4%
• Cadmium Fluoroborate	20.1% to 20.2%
• Caustic Soap	4.3% to 6.9%
• Chromic Acid	1.1% to 3.9%
• E-Chrome 851l	0.1%
• Free Chloride	2.8% to 9.4%
• Hydrochloric Acid	5.1% to 5.8%
• Interlox 2325mciz	2.7%
• Kenvert 11	0.7%
• Nickel Sulfamate	5.1% to 5.7%
• Nitric Concentrate	4.2% to 6.8%
• Potassium Copper Cyanide	7.5% to 8.8%
• Potassium Cyanide	0.7% to 7.9%
• Potassium Permanganate	2.2%
• Silver Cyanide	0.1% to 0.8%
• Sodium Cyanide	5.9% to 7.9%
• Sodium Dichromate	1.2%
• Sodium Hydroxide	0.5% to 9.2%
• Sulfuric Acid Concentrate	0.2%
• Zil 906 Solution	1.9%



Representative example of poly tanks (not actual)

In the process, these solutions are stored in either stainless steel or poly tanks (depending on the solution), which have multiple layers of containment safeguards.