



FZE Manufacturing Showcases ISO-Certified Stainless Steel Passivation Services

March 11, 2026

NORTH FOND DU LAC, WI - March 11, 2026 - PRESSADVANTAGE -

FZE Manufacturing Solutions LLC, a precision manufacturing company with five decades of industry experience, is highlighting its comprehensive stainless steel passivation services designed to enhance corrosion resistance for components across multiple industrial sectors. The company operates from its facility in Fond du Lac, Wisconsin, where it maintains ISO 9001:2015 certification for its metal treatment and surface finishing processes.

Stainless steel passivation represents a critical chemical treatment process that removes free iron and other surface contaminants from metal components. The treatment creates a protective chromium oxide layer on stainless steel surfaces, significantly improving resistance to rust and environmental degradation. FZE Manufacturing employs a citric acid-based passivation method that offers environmental advantages over traditional nitric acid processes while delivering consistent protective results.

FZE's stainless steel passivation process follows a systematic approach beginning with alkaline cleaning to remove oils, grease, and surface contaminants from stainless steel parts. Components then undergo immersion in a citric acid bath where the protective passive layer forms on the metal surface. Deionized water

rinses follow each stage of the process, and final testing verifies corrosion resistance through salt spray and copper sulfate exposure protocols.

Doug Pribyl, CEO of FZE Manufacturing, emphasized the importance of proper surface treatment in modern manufacturing applications. "Our passivation services help manufacturers across numerous industries protect their stainless steel components from premature degradation and failure," Pribyl stated. "The citric acid process we employ not only delivers excellent corrosion prevention results but also aligns with our commitment to environmentally responsible manufacturing practices."

Industries requiring passivation services span a diverse range of applications where corrosion resistance proves essential to component longevity and performance. Aerospace manufacturers rely on passivated stainless steel for flight-critical components that must withstand extreme environmental conditions. Medical device and pharmaceutical equipment manufacturers require passivation to ensure biocompatibility and maintain sterile processing environments.

The food and beverage industry represents another significant sector where stainless steel passivation plays a vital role in equipment performance. Processing equipment, storage vessels, and handling systems benefit from enhanced corrosion resistance that prevents contamination and extends service life. Agricultural and dairy operations similarly depend on properly treated stainless steel components to maintain sanitary conditions and equipment reliability.

Hydraulic systems, marine applications, and oil and gas equipment frequently incorporate passivated stainless steel components due to exposure to moisture, chemicals, and other corrosive elements. Military and defense applications demand rigorous surface treatment standards to ensure equipment performs reliably under challenging operational conditions. Power generation facilities and water treatment operations also utilize passivated components throughout their infrastructure.

FZE Manufacturing brings expertise developed over fifty years of operations to its passivation services. The company was established in 1974 and has continuously expanded its capabilities to address evolving manufacturing requirements. Technical staff members hold Lean Six Sigma Black Belt certifications, reflecting the organization's commitment to process efficiency and quality management principles.

The company's broader manufacturing capabilities complement its surface treatment services. CNC machining, metal fabrication, welding, and assembly services allow FZE Manufacturing to provide integrated solutions for customers requiring multiple production processes. Laser marking, electropolishing, and inspection services round out the available capabilities, enabling comprehensive part production from raw material through finished components.

Quality assurance protocols govern all aspects of operations at FZE Manufacturing. The ISO 9001:2015 certification demonstrates adherence to international quality management standards throughout production processes. Dimensional and visual inspection services verify that components meet specified tolerances and surface finish requirements before shipment to customers.

FZE Manufacturing maintains inventory management and supply chain optimization programs to support customer production schedules. Just-in-time manufacturing capabilities and quick turnaround options address urgent production requirements. The company reports consistent on-time delivery performance as a result of its operational management systems and production planning processes.

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