

LockMesh® Coating

Teflon Infused Stainless Steel Mesh Surface Coating for Rack & Pinion Actuators

An Innovative Solution for Corrosion Resistance

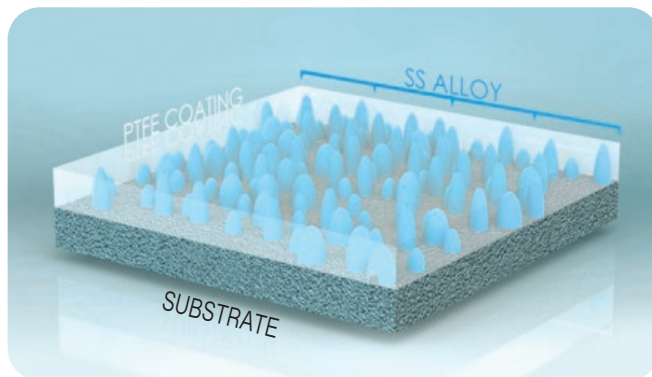
Max-Air is proud to offer our advanced coating system, LockMesh®. This hybrid coating system combines the rugged toughness of a stainless steel base coating with the corrosion resistance of PTFE.

Corrosive environment applications such as marine areas, caustic wash down, submerged service, and direct chemical exposure require equipment with enhanced corrosion resistance. Frequently the common options are plating, painting, or a change to stainless steel construction. All of these can be effective in some applications; however, they do have limitations and in some cases carry a significant weight and/or cost impact.

LockMesh® has been shown to provide a cost effective compromise. It provides the chemical resistance of PTFE along with the durability enhancement of a stainless steel base layer.

Proprietary Process

LockMesh® coating is applied in several carefully planned stages. The process begins with a rigorous surface preparation, which is critical to guarantee surface bonding at the molecular level with the substrate. The next step is the application of a specially prepared stainless steel microspray through an electrical arc process, creating the lockable mesh surface into which the PTFE is infused (see diagram) at a specific temperature and atmospheric condition. This process is followed by additional infused applications of PFA/PTFE powder coating, along with a carefully monitored oven curing process.



Field Tested

Our LockMesh® Coated Rack & Pinion Actuators have proven time and time again that they hold up to the most demanding of environments.



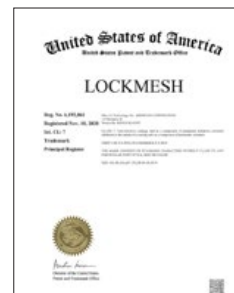
Before



After



Perfect for
Environments
w/ Salt!



Max-Air Exclusive Trademark

LockMesh® Coating is an exclusive, proprietary and trademarked actuator coating only available through Max-Air Technology.



Applications

LockMesh® coating provides one of the most durable corrosion-resistant coatings available, easily withstanding corrosive chemicals, aggressive atmospheric conditions, and various immersion applications. Because the coating is an approved food grade material, it is suitable for a wide variety of industries including food and beverage, pharmaceutical, chemical processing, pulp and paper, and many others including coastal (salt air) installations.



Materials, Coatings, & Special Finishes Compared

Increased Corrosion Resistance & Relative Cost

Materials/Coatings w/ Properties & Limitations

Options	Aluminum: Hard Anodized (Standard)	Aluminum: Anodized w/ Polyamide Epoxy Coating	Aluminum: Electroless Nickel Infused	Aluminum: PTFE Infused SS Mesh LockMesh® Coating	Stainless Steel: ASTM A351 Grade CF8M
Properties	Good general corrosion properties in most "natural" environments with pH from 4.5 to 8.5. Good resistance to salt air environments. The coating is extremely hard and resistant to abrasion.	The epoxy coating is relatively thick, which creates a barrier against many of the chemicals which anodizing alone cannot adequately resist. It will resist more acidic or basic environments than anodizing alone.	Uniformly thick coating with essentially no porosity and a reasonably high hardness. The coating is pure, tough, hard, and resistant to many types of corrosion media.	This coating provides complete surface coverage and exhibits excellent corrosion resistance properties in a wide variety of applications. In addition, it is FDA approved for food contact.	304 and 316 stainless steel are the most commonly used alloys. Both have good corrosion resistance but 316 is generally considered superior, however more expensive.
Performance Limitations	Highly acidic or basic environments will break down the coating.	Good general corrosion resistance, particularly in salt or alkaline environments. Limited resistance to acids. Surface chalking will occur when exposed to UV radiation. Also suitable for low concentrations of caustic washdown solutions.	The coating will provide enhanced corrosion protection in very acidic environments but will not withstand attack from strong alkaline media. Also suitable for low to medium concentrations of caustic washdown solutions.	These coatings are resistant to any environment into which an actuator would be installed. Provided the integrity of the surface is intact, the coating can resist a broad array of chemical environments at temperatures ranging from sub-zero to 350° F.	Although stainless steel does offer enhanced corrosion resistance, it also is dramatically higher in both cost and weight. The weight differential will often necessitate the use of special support bracketry. Corrosion resistance is superior.