**Fitting.Made.Easy. Technical Bulletin**
Passivation

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Passivation is the chemical treatment for protecting metal from corrosion. The treatment of stainless steel is the most commonly associated with passivation for the purpose of preventing corrosion. The process of passivation is actually, a corrosive process in which corrosion occurs on the surface forming a thin layer over the surface, creating a natural seal. The process of passivation is something that accelerates the process which (passively) occurs over time, thus the term, passivation.

OmegaOne passivates our stainless-steel fittings in compliance with ASTM A967. There are multiple methods of passivation, ASTM A967 discusses two, nitric or citric. Both methods of passivation are intended to remove free iron particles from the surface of the metal. Iron particles or other contaminants may be present from the machining process when the fitting is manufactured. Nitric and citric passivation both make stainless steel more resistive to oxidation (rust resistant).

To comply with ASTM A967, OmegaOne uses the Citric method of passivation, performing a copper-sulfate test to confirm that free iron and other potential contaminants have been removed from the surface. OmegaOne selected the Citric method of passivation as this method because it is environmentally friendly. However, the Citric method of passivation may not be acceptable for certain applications.

Certain application, MS specification parts, require compliance with, SAE AMS 2700. AMS stands for Aerospace Material Specification, which is published by SAE. AMS2700 recognizes the two methods of passivation, Nitric, Method 1 and Citric Method 2, indicating the following:

> *"Method 1 shall be used unless Method 2 is authorized by the cognizant engineering organization."*

Our sales team can assist in explain the difference and helping obtain approval for Citric passivation. If the end user of the fitting is unwilling to accept parts which are passivated using the Citric method, OmegaOne is capable or performing additional passivation in order to meet SAE AMS 2700.

If you have additional questions regarding passivation of OmegaOne stainless steel fittings, contact our sales team.

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**Research Sources:**

https://rpabrasives.com/resources/astm-a967-ams-2700/

https://www.reliance-foundry.com/blog/passivation