

SilcoGuard®

A high purity coating developed to minimize outgassing and enhance ultra-high-vacuum productivity.



Overview

SilcoGuard® (US Patent 7,070,833) is a multi-layered barrier of amorphous silicon designed specifically for low outgassing characteristics. The coating repels moisture while not interfering with knife-edge or seal integrity due to its thin (sub-micron) profile. System contamination is quickly removed with SilcoGuard-treated vacuum components.

Features & Benefits

- Reduce vacuum pump-down times by 2.5x
- Improve yields by preventing wall reactivity and ion contamination
- Eliminate burn-in or stabilization

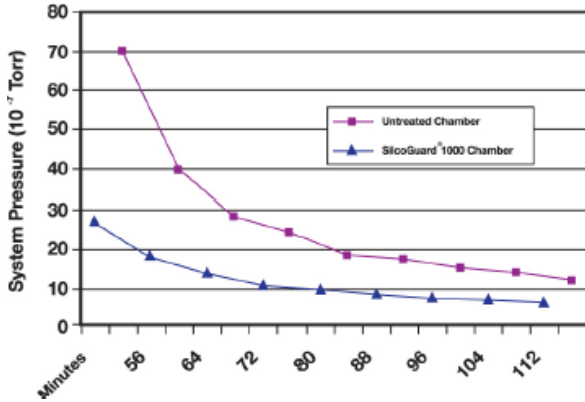
Specifications

Substrate compatibility*:	SS alloys, ceramics, glass, titanium, most exotic metals, TIG/MIG welds, vacuum-nickel brazed areas
Allowable temp. range:	-210°C to +1400°C
Thickness:	180-600 nm
Allowable pH exposure:	0-8
Lubricity (coefficient of friction):	0.7
Hydrophobicity (contact angle):	80°
Wear resistance:	14.00 (304 stainless steel: 13.81)

Data

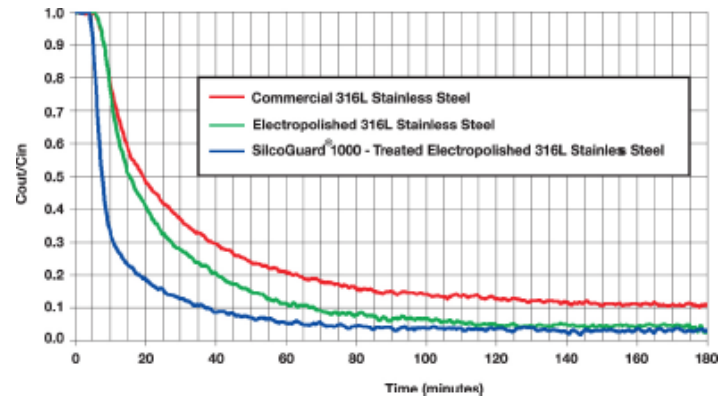
Low Outgassing

SilcoGuard® is a high release coating that improves vacuum pump-down performance by 2x.



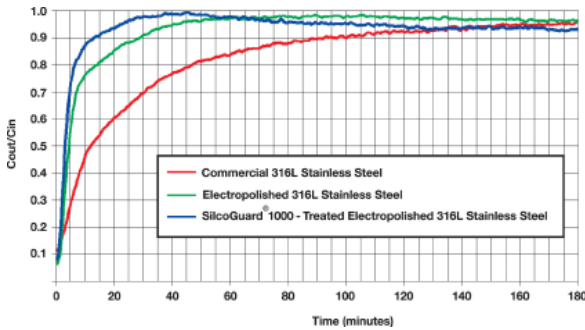
Moisture Dry Down

SilcoGuard reduces drying time by 4x or more.



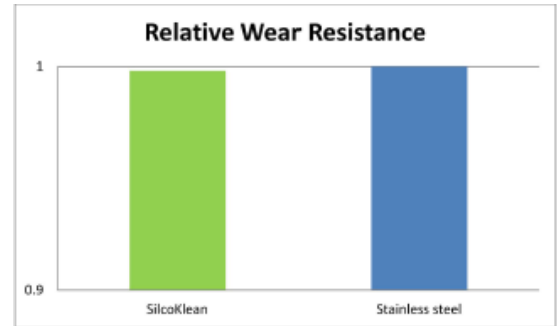
Moisture Wetting

SilcoGuard can reduce system moisture effects by 8x or more with its hydrophobicity.



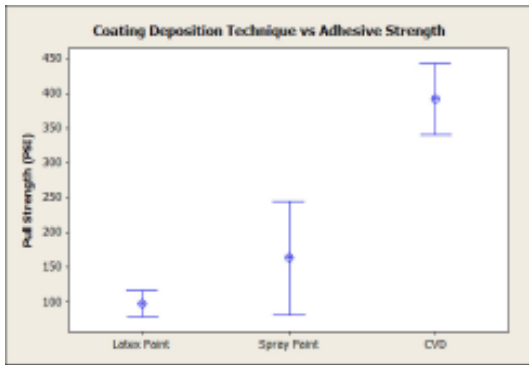
Wear Resistance

SilcoGuard is a flexible coating with wear resistance comparable to stainless steel.



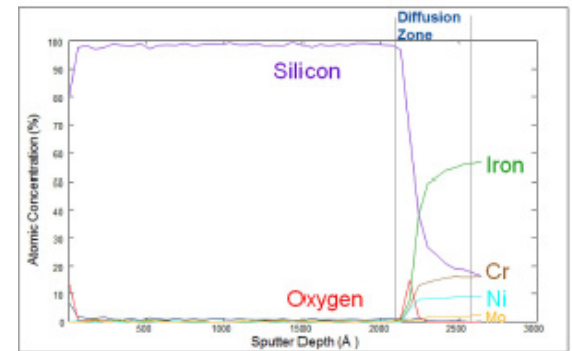
Adhesion

Our CVD process ensures a molecularly bonded coating that will not flake or peel.



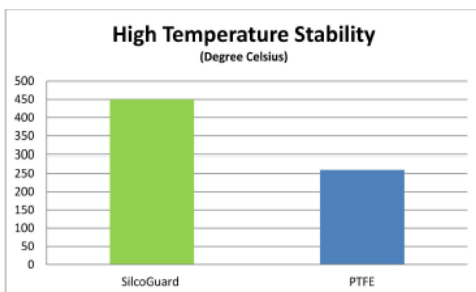
High Purity

Multilayer silicon surface prevents leaching of metal ions into process streams.



High Temperature

As a silicon layer, SilcoGuard does not fully degrade until ~1400°C.



Game-Changing Coatings™

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