

SilcoKlean[®]1000

Reduces carbon buildup on combustion-related components.

Overview

The SilcoKlean[®] coating process results in a protective barrier of amorphous silicon that is further functionalized to specifically prevent the buildup of carbon deposits on high temperature stainless steel and ceramic components (patent info at www.silcotek.com/IP). Applied via chemical vapor deposition (CVD), the SilcoKlean process is the best solution for carbon coking due to its robust and inert properties.



Key Applications and Benefits

- Non-line-of-sight process; all holes and complex geometries will be coated
- Cut downtime and costs
- Suitable for high temperature use
- Reduce unwanted build-up



Automotive



Aerospace



Stack/Flare



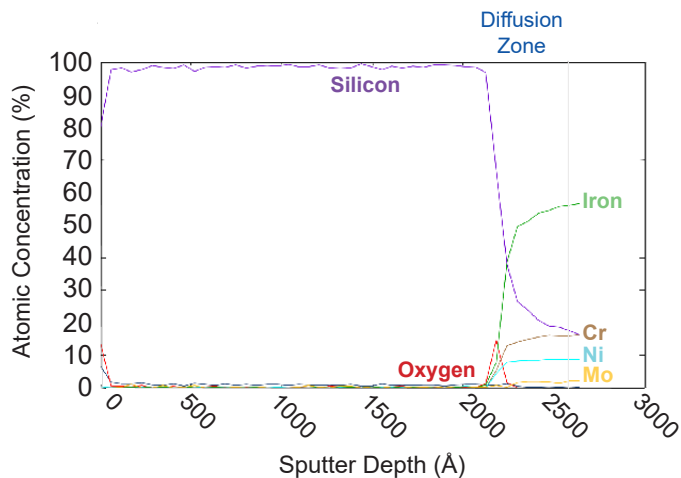
Refining

SilcoKlean[®] Properties

Coating Structure:	Functionalized hydrogenated amorphous silicon
Deposition Process:	Thermal chemical vapor deposition (not plasma-enhanced)
Maximum Temperature:*	Max for functionalization: 450° C (inert), 400° C (oxidative)
Substrate:	Compatibility: Stainless steel, exotic alloys, ceramics Size: Typical parts up to 80" (203 cm), contact us for larger jobs. Geometry: Any shape, including complex geometries
Typical Thickness:	100 - 500 nm
Hydrophobicity (contact angle):	≥ 65°
Allowable pH Exposure:	0 - 8

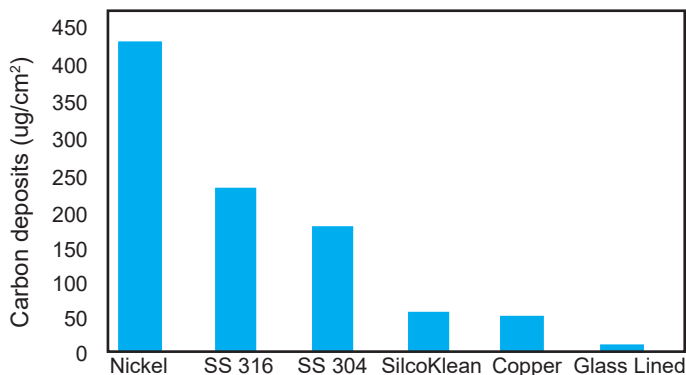
CHEMICALLY COMPATIBLE

Functionalized silicon structures applied by the SilcoKlean process provides a highly inert barrier to analytes of interest.



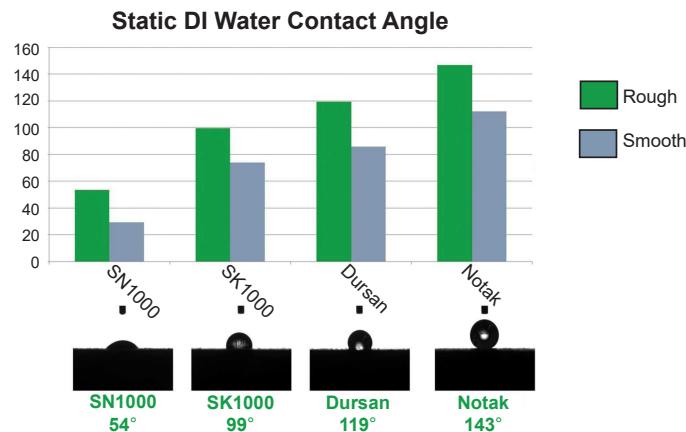
ANTI-COKING

Surfaces treated by the SilcoKlean process can substantially improve fuel efficiency by reducing carbon deposits on metal surfaces.



NON-WETTING

The SilcoKlean process doubles the hydrophobicity of stainless steel, improving the non-stick properties of the coated surface.



ANTI-FOULING

Surfaces coated by the SilcoKlean process (left) prevent build-up or “fouling” of unwanted materials



HIGH-TEMPERATURE STABLE

Coatings produced by the SilcoKlean® process are robust and inert for use up to 450°C, far exceeding the limits of PTFE.

