

SilcoNert® 1000

The original inert coating technology.
Also known as SilcoSteel®.

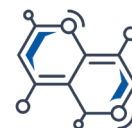
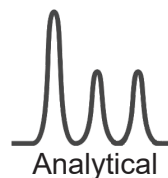
Overview

The SilcoNert®1000 coating process (patent info at www.silcotek.com/IP) deposits a chemically protective barrier of amorphous silicon that is excellent for general purpose barrier applications. Applied via chemical vapor deposition (CVD), the SilcoNert®1000 process is ideal for any flow path or other application where preventing a reaction between substrate and process gas, fluids, or other media is necessary.



Key Applications and Benefits

- Non-line-of-sight process; all holes and complex geometries will be coated
- Eliminate adsorption and retesting
- Obtain faster calibrations
- Improve inertness at high temperatures

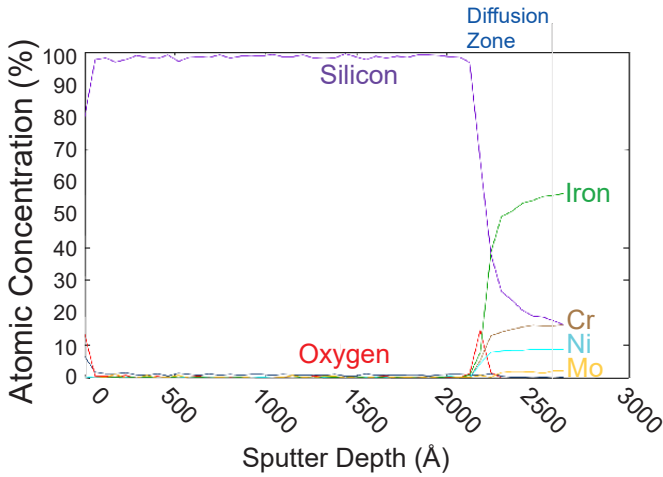


SilcoNert® 1000 Properties

Coating Structure:	Hydrogenated amorphous silicon (a-Si:H)
Deposition Process:	Thermal chemical vapor deposition (not plasma-enhanced)
Maximum Temperature*:	Advertised properties, before crystallization: 720° C Melting: 1410° C
Substrate:	Compatibility: Stainless steel, exotic alloys, ceramics Size: Up to 80" (198 cm), contact us for larger jobs. Geometry: Any shape, including complex geometrics
Typical Thickness:	100 - 500 nm
Hydrophobicity (contact angle):	≥40°
Allowable pH Exposure:	0 - 8

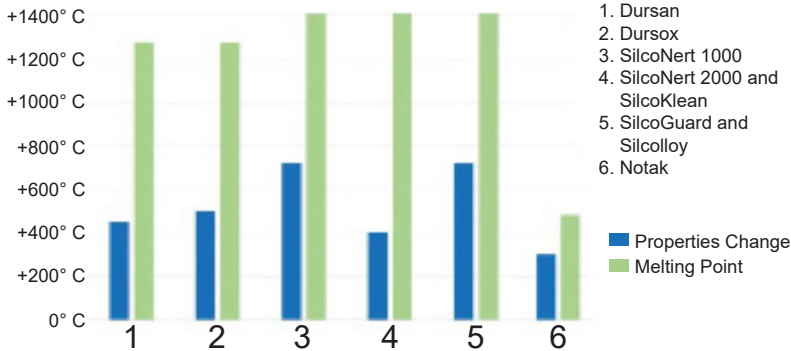
CHEMICALLY COMPATIBLE

SilcoNert 1000's amorphous silicon structure provides excellent barrier properties in a variety of applications.



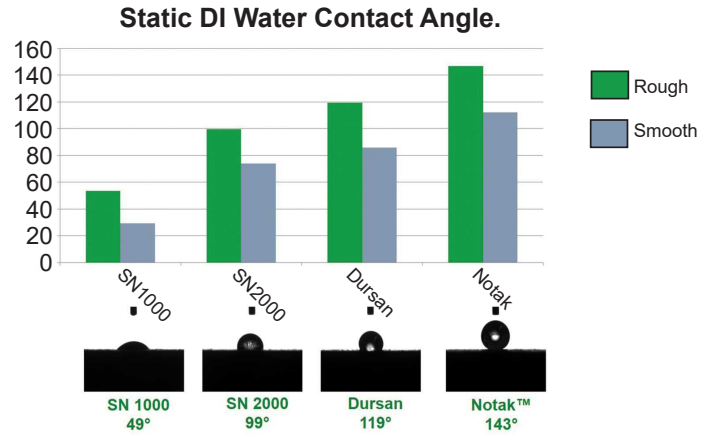
HIGH-TEMPERATURE STABLE

SilcoNert 1000 is stable and inert at temperatures up to 1410°C, providing a coating option for high temperature analytical or general barrier applications.



HYDROPHOBICITY COMPARISON

SilcoNert 1000 offers a general purpose moisture barrier that improves hydrophobicity over uncoated stainless steel.



PURE

SilcoNert 1000 is a chemically pure layer that improves compatibility between your equipment and process stream.

Element	Coating Contents
Aluminum	<20 ppm
Chromium	0 ppm
Iron	<100 ppm
Nickel	<10 ppm
SilcoTek Silicon CVD Coating	99.98% purity



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*SilcoNert1000® refers to the SilcoNert1000® process, which is a thermal chemical vapor deposition that we perform on your parts to have the properties identified above.