



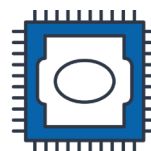
A corrosion resistant silicon barrier coating ideal for acidic, oxidative, and high purity environments.

Overview

Silcolloy® (patent info at www.silcotek.com/IP) is a chemically protective, corrosion resistant, multi-layered barrier of amorphous silicon. Applied via chemical vapor deposition (CVD), Silcolloy® is the ideal choice for protecting stainless steels, exotic metals, glass, ceramics and other alloys from acidic attack or for preventing unwanted compounds from entering the process stream.

Key Applications and Benefits

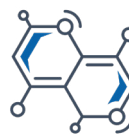
- 3D non-line-of sight process coats all complex geometries including designs with high aspect ratios and small orifices.
- Achieve exotic material performance at a fraction of the price.
- Fight corrosion with a non-reactive, pure barrier.



Semiconductor



Stack & Flare



Chemical Process



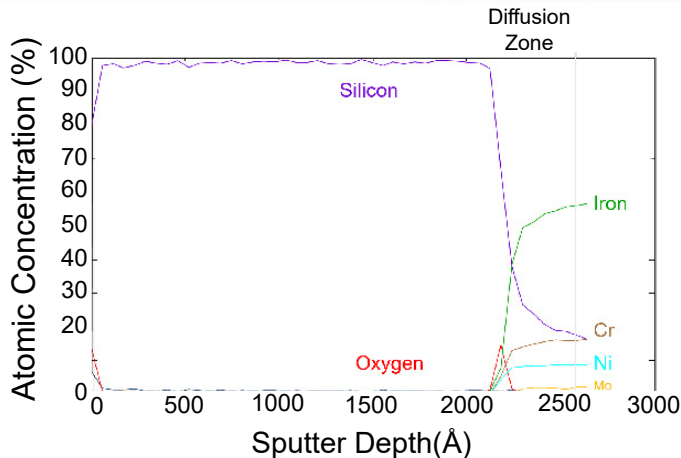
Oil & Gas/Refining

Silcolloy® Specifications

Coating Structure:	Hydrogenated amorphous silicon (a-Si:H)	
Deposition Process:	Thermal chemical vapor deposition (not plasma-enhanced)	
Maximum Temperature:	1410° C*	
Substrate:	Compatibility:	Stainless steel, exotic alloys, ceramics
	Size:	Up to 78" (198 cm)
	Geometry:	Any shape, including complex geometrics
Typical Thickness:	180 - 800 nm	
Hydrophobicity (contact angle):	≥40°	
Allowable pH Exposure:	0 - 8	

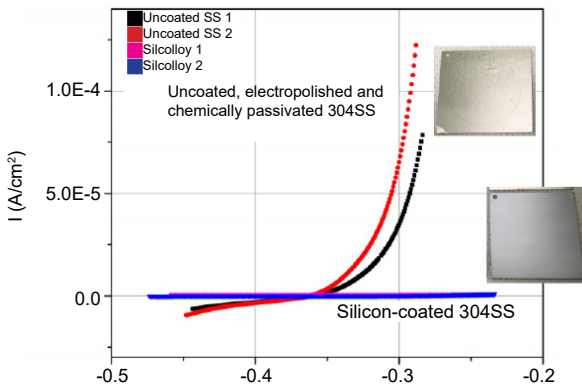
CHEMICALLY COMPATIBLE

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



CORROSION RESISTANT

Silcolloy is a continuous, pinhole-free corrosion barrier to aggressive acidic conditions.



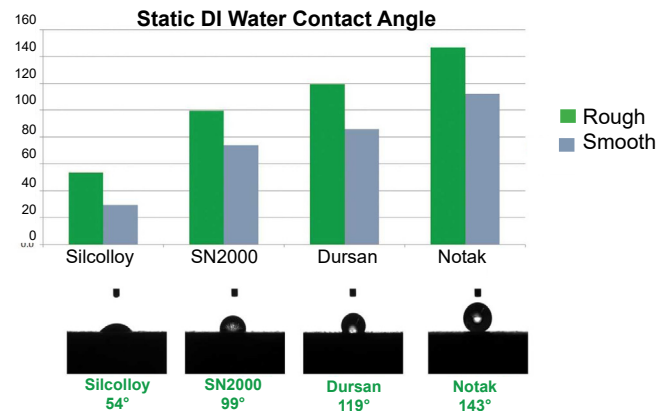
PURE

Silcolloy 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

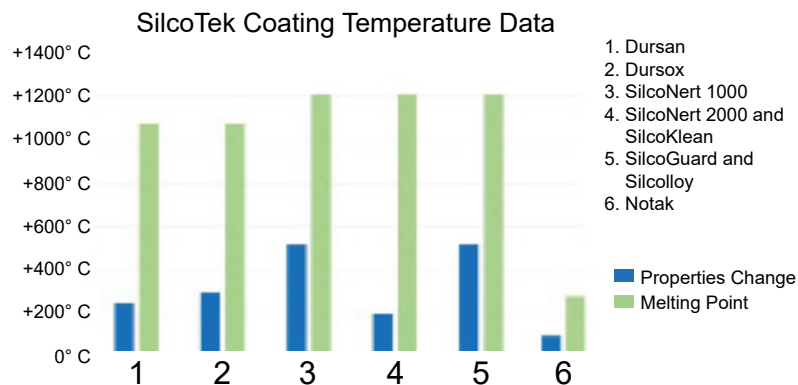
HYDROPHOBICITY COMPARISON

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



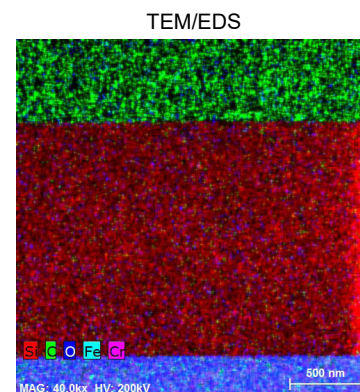
HIGH-TEMPERATURE STABLE

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



UNIFORM

Silcolloy is a uniform, inert, amorphous silicon surface.



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