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ADVANTAGE

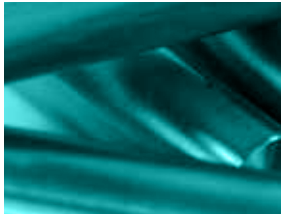
Our exclusive Silonite™ coating process enables us to create the most inert trace level chemical sampling products on the market.



02

COATING

Learn how we ensure that every batch of Silonite™ provides for the most inert surface coating possible.



03

COLOR SECRET

Silonite™ color consistency indicates a uniform coating thickness, providing maximum inertness and durability.



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TUBING

Silonite™ greatly improves the chemical inertness of stainless steel tubing.



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Silonite™ Coated Loops are pre-bent before coating. This creates the most inert internal surface possible.



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FITTINGS

Entech stocks a wide variety of Silonite™ coated fittings. We can also custom coat fittings upon request.



07

CUSTOM

Entech coats OEM parts for a variety of industries. Any application requiring exceptional inertness and high temperature tolerance is a great candidate for Silonite™ coating.



08

CYLINDERS

Silonite™ coating allows sulfur compounds to remain stable for weeks prior to analysis



09

VALVES

Entech's Silonite™ coated Valco Valves are sold in variety of sizes and include the valve, rotor, nuts, ferrules, and a 2" stand off



The Silonite™ Advantage

More inert than Metal or Glass | Reduces Porosity of Metal Surfaces |
Ultra Thin Coating | Complete Surface Bonding

Stainless steel and glass are the most commonly used materials in GC Inlet and sample handling systems. However, surface imperfections and inherent chemical dependent adsorption exists with even the highest quality 316L stainless steel, causing substantial losses of vapor phase chemicals.

At elevated temperatures, surface metal oxides can be catalytic, especially exposed iron on the surface or in pores below the surface. The fact that 316SS is about 67%-70% iron

makes catalytic losses a certainty unless the surface is treated with Silonite™. Glass, although more inert than stainless steel, also contains additives which have a negative effect on surface inertness. These include Iron, Sodium and Boron.

Placing a thin layer of Silonite™ over these surfaces eliminates exposure of the sample to these reactive additives and impurities.



Applications

Chromatography Inlet Systems

Injection Liners | Tubing | Vials

Sample Handling

Canisters | Cylinders | Valves | Glass Vials | Jars

Analyzer Components

Sulfur & Mercury Analysis

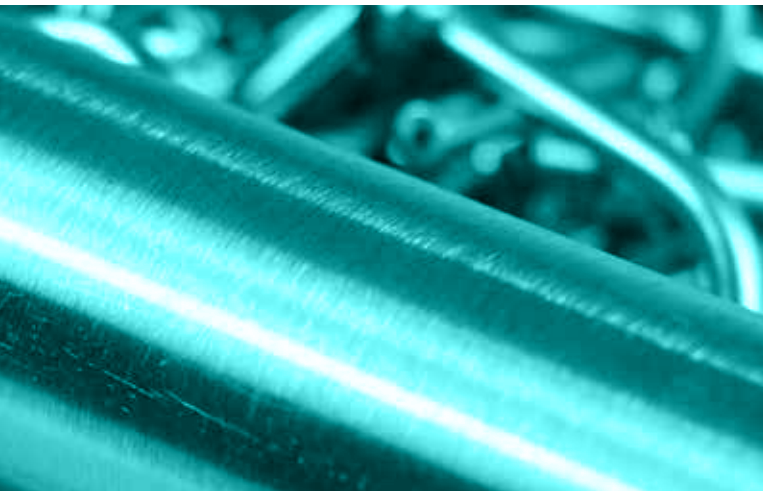
*Thin enough to maintain substantial flexibility through
chemical and mechanical processes*

Silonite™ Coating

Silonite™ is a ceramic coating treatment developed by Entech to provide an extremely inert surface for chromatography applications. Silonite™ creates an ultra-smooth surface which reduces the potential

for chemical adsorption. The high density Silonite™ coating nearly eliminates absorption effects prevalent in plastics such as: Teflon®, Tedlar® or Siloxane treated surfaces.

Silonite Coating (Thickness: 40-100nm)



SILONITE™

METAL OXIDE

STAINLESS STEEL



The Color Secret

What makes Silonite™ coated parts so colorful? Placing a smooth, transparent coating over stainless steel surfaces results in a phenomenon known as "thin film interference," where light reflecting off the Silonite™ ceramic coating becomes out of phase with light reflecting off the stainless steel surface below. The cancellation of part of the light spectrum and enhancement of other wavelengths turns normal white light into one of several different shades exhibited by Silonite™ coated parts. The actual color formed is an indication of the thickness of the coating. As the thickness increases from 150–1000 angstroms, the apparent color of Silonite™ coating goes through a color progression.



Silonite™ Coated Tubing

Silonite™ Coating

Inert and durable surface prevents interaction with reactive metal oxides on tubing walls.

Resists Cracking

Silonite™ is flexible enough to handle mild bending.

Better Recovery

Including reactive organic compounds containing oxygen, nitrogen, sulfur and phosphorous.

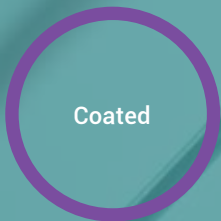
Silonite™ greatly improves the chemical inertness of stainless steel tubing. Combining the durability of stainless steel with the inertness of a non-reactive ceramic coating creates the perfect solution for real world chemical applications. Unlike other coatings on the market, Silonite™ provides the most consistent, high-density barrier available. Silonite's consistency ensures chemicals never reach reactive metal oxides on interior tubing walls. The smooth coating layer provides an even, laminar flow, creating a lower pressure drop and discourages deposition of

high molecular weight contaminants. This helps to maintain a clean flow path and preserves Silonite's inert, non-adsorptive properties within the tubing. Silonite™ tubing can be further deactivated in a proprietary process which results in an incredibly thin, low-bleed coating. Our Silonite-D™ tubing provides the best inertness for chromatography applications. Polar and reactive compounds show better GC injection profiles with reduced tailing during analysis.



Ultra-Smooth Surface

Reduces internal surface area and porosity.



Superior Quality Assurance

Batch tested for inertness.

Wide Temperature Range

Silonite™ can withstand temperatures between -200°C to 450°C.



1/32" x 0.02" Silonite™ Tubing	15-87020D	FT
1/16" x 0.02" Silonite® Tubing	15-87120D	FT
1/16" x 0.04" Silonite® Tubing	15-87140D	FT
1/8" x 0.085" Silonite® Tubing	15-87280D	FT
1/4" x 0.21" Silonite® Tubing	15-87421D	FT

Coated Deactivated Loops

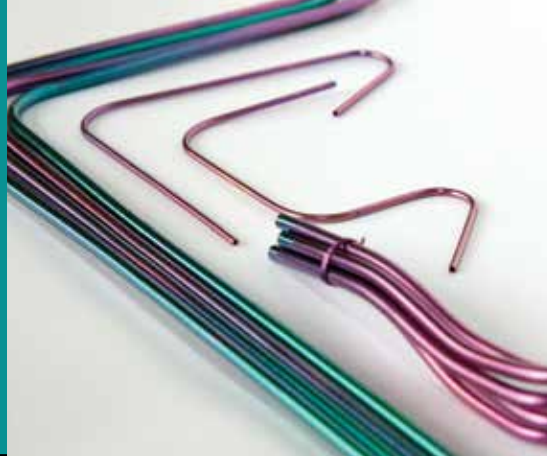
Silonite™ Coated Loops are pre-bent before coating. This creates the most inert internal surface possible. Loops are batch tested using dry, polar standards at room temperature to verify complete inertness.

We take the time and care required to ensure the acclaimed inertness and durability of Silonite™ during our intricate, software controlled surface treatment process.

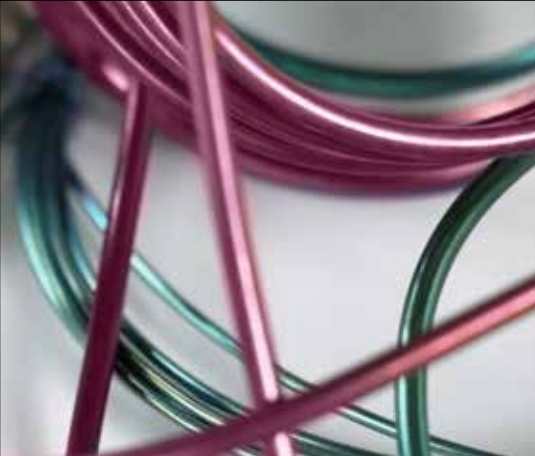
Silonite™ quality is visibly evident by its consistent color. Wide spectrum color shifts, or a “rainbow” appearance as often seen in competitive coatings are an indication of irregular surface thickness and inconsistent inertness / corrosion resistance.

50L Silonite™ Loop	07-60050	EA
125L Silonite™ Loop	07-60125	EA
250L Silonite™ Loop	07-60250	EA
0.5cc Silonite™ Loop	07-60500	EA
1.0cc Silonite™ Loop	07-61000	EA
2.0cc Silonite™ Loop	07-62000	EA
5.0cc Silonite™ Loop	07-65000	EA

Sulfur
Compound
Analysis



Mercury Sample
Collection &
Analysis



Formaldehyde
Analysis





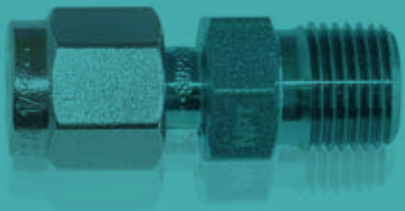
Coated Fittings

Entech stocks a wide variety of Silonite™ coated fittings. We can also coat custom fittings upon request.

Contact our Sales Department: sales@entechinst.com



NOTE: Nuts are not coated since they do not come in contact with a sample path. Ferrules are also not coated since Silonite coating would make the surface harder, resulting in variances in sealing characteristics.





Custom Silonite™ Coating

300 series stainless steel or glass shapes can be Silonite™ coated. Entech coats OEM parts for a variety of uses, and in various industries. Contact us today to see how Silonite™ can be the right solution for your applications.

Chemical Inlets and Manifolds | Sulfur Compound Analysis |
Analyzer Components | Regulators

Refinery Sulfur Gas Sampling

High pressure refinery gas sampling cylinders are now available with our Silonite™ coating that allows sulfur compounds to remain stable for weeks prior to analysis. Corrosion resistance in the presence of HCl is also improved. Sampling cylinders and valves are rated to 1800psig, allowing for direct sampling of liquid propylene, LPG, and high pressure natural gas. Silonite™ coated cylinders also conform to new regulations requiring sulfur monitoring in refinery flare gas stacks.



¼" Swagelok® MNPT to ¼" FNPT	29-66100L	EA
¼" Swagelok® MNPT to ¼" MNPT	29-66200L	EA
¼" Swagelok® MNPT to ¼" COMP	29-66300L	EA



High Pressure Cylinders

300cc 1800psig Silonite™ Cylinder	29-60300L	EA
500cc, 1800psig Silonite™ Cylinder	29-60500L	EA
1000cc, 1800psig Silonite™ Cylinder	29-61000L	EA





Silonite™ Coated Valco® Valves

1/16", 6-Port, 2-Position	31-30820S	EA
1/16 ", 8-Port, 2-Position	31-30120S	EA
1/16", 9-Port, 8-Position	31-30220S	EA
1/8", 17-Port, 16-Position	31-30320S	EA
1/16", 34-Port, 16-Position	31-30420S	EA



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INSTRUMENTS

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