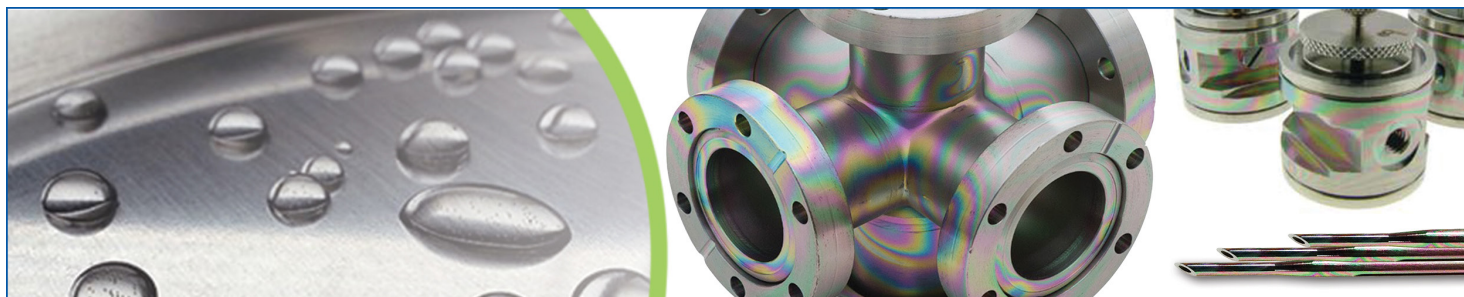


# SilcoTek® Non-Stick CVD Coatings

Surface Solutions for Better Performance and More Uptime



## Overview


Fouling, coking, or simply “sticking” is a costly surface problem that occurs in most industrial applications.

Surface fouling causes contamination, promotes corrosion, reduces flow, increases maintenance, and ultimately inflates costs while worsening performance.

SilcoTek® offers surface treatments and coatings that substantially increase system uptime and output by reducing unwanted accumulation on critical surfaces.

## Specifications

Applicable coatings:

 **Dursan®** - chemically functionalized silicon oxide (a-SiO)  
**Notak<sup>SM</sup>** - direct organofluoro surface treatment to substrate

Deposition process:

Thermal chemical vapor deposition (not plasma-enhanced)

Temperature:

Deposition 300°C (Notak™); 450°C (Dursan®)

Use

Up to 300°C (Notak™); 450°C (Dursan®)

Substrate:

Compatibility

Stainless steels, titanium, aluminum, more

Size

Up to 80" (203 cm)

Geometry

Any shape, including complex geometries

Coating thickness:

400-1600 nm (Dursan®); <10 nm (Notak<sup>SM</sup>)

Non-stick properties (contact angle):

DI water - excellent (up to 150°); 10W40 oil - very good (up to 105°)

Ideal for:

Molds, heat exchangers, tubing, extrusion components, instrumentation, more

## Key Application Features

- **Automotive and Aerospace**

- Improve fuel efficiency by preventing carbon coking on fuel injectors, sensors, exhaust paths, oil transfer lines, and more

- **Thermal Management**

- Increase performance by preventing scaling and fouling on heat exchanger surfaces

- **Mold Release, Packaging, and Plastics**

- Increase plant uptime by reducing maintenance

- **Medical Diagnostics and Pharmaceuticals**

- Ensure accurate results and equipment uptime by preventing surface activity

# Performance Data & Benefits

## Non-Wetting

Extend system lifetime and reduce maintenance

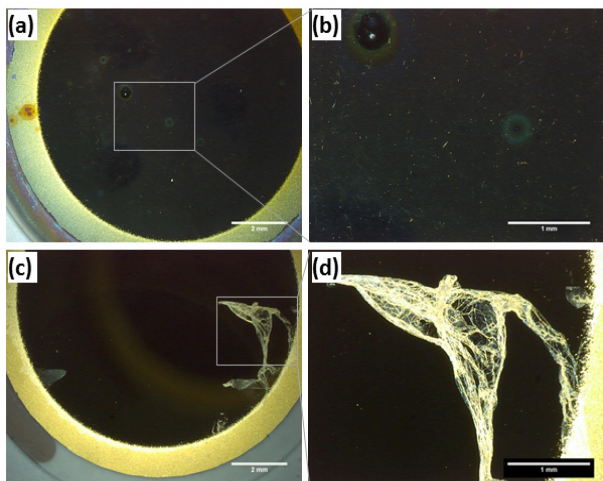


SilcoTek®-coated surfaces (left) prevent build-up or “fouling” of unwanted materials and byproducts.



## More Robust than Fluoropolymers

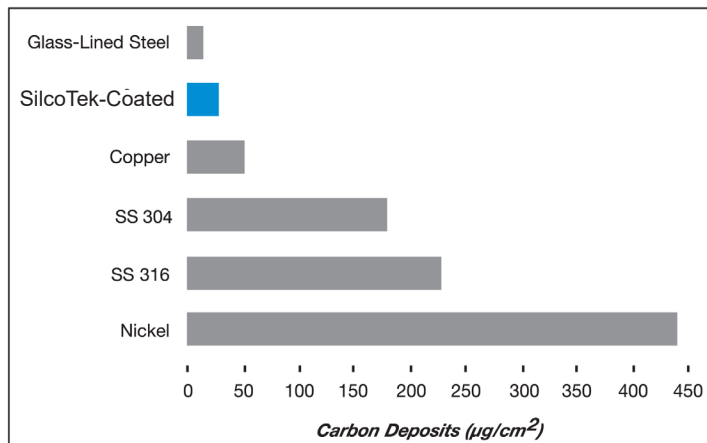
Improve component lifetime in addition to non-stick properties.



Dursan®-coated parts (top) withstand medical-grade cleaning procedures, while fluoropolymers (bottom) crack and flake.

## Anti-Coking Performance

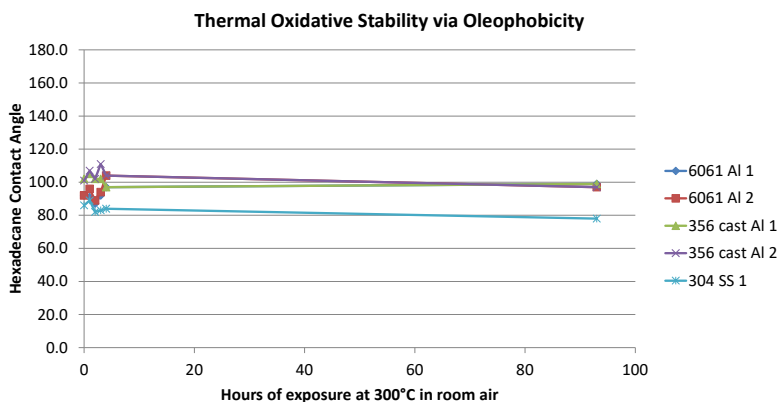
Increase efficiency of fuel injection and delivery systems



Substantially improve fuel efficiency by reducing carbon deposits on metal surfaces.

## Stability in Demanding Environments

Notak<sup>SM</sup> maintains properties even at high temperatures



## Resources

Visit [www.SilcoTek.com/learning-center](http://www.SilcoTek.com/learning-center) for literature, data, and more.

## How to Buy

Go to [www.SilcoTek.com/ordering/quote-request](http://www.SilcoTek.com/ordering/quote-request) for a custom quote or [www.SilcoTek.com/buy-coated-products](http://www.SilcoTek.com/buy-coated-products) for stock items.

## Contact SilcoTek

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By phone: +1 (814) 353-1778

## References

- Perez, J., A. Boehman, Penn State Multi-Discipline Tribology Group and Energy Institute Studies The Pennsylvania State University, University Park, PA (1998).
- Jones, E.G., W. Balster, W. Rubey, Fouling of Stainless Steel and Silcosteel Surfaces During Aviation-Fuel Autoxidation Systems Research Laboratories, Inc, Dayton, OH; University of Dayton Research Institute, Dayton, OH (1995).
- Altin, O., S. Eser, Analysis of Solid Deposits from Thermal Stressing of a JP-8 Fuel on Different Surfaces in a Flow Reactor Ind. Eng. Chem. Res, 40: 596-603 (2001).



Game-Changing Coatings™

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