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.

Key Application Features

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

- **Power**
  - 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

Specifications

| Applicable coatings: | **Dursan®** - chemically functionalized silicon oxide (a-SiO)  
|                      | **Notak™** - direct fluoro- molecular surface treatment (no base coating) |
| 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®); Notak™ adds no appreciable thickness  
| 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 |

*Dursan® and Notak™ are patented/patent-pending and trademarks of SilcoTek® Corporation*
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.

Anti-Coking Performance
Increase efficiency of fuel injection and delivery systems

More Robust than Fluoropolymers
Improve component lifetime in addition to non-stick properties.

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

Stability in Demanding Environments
Notak™ maintains properties even at high temperatures

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

Resources

How to Buy

Contact SilcoTek
Find a global representative: www.SilcoTek.com/ordering/international
For customer or technical service: SilcoD@SilcoTek.com
By phone: +1 (814) 353-1778

References

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