



## SilcoTek® Coatings and In Vitro Diagnostic Probes

Setting a new standard for In Vitro Diagnostics with SilcoTek-Coated Probes

SilcoTek's coating technology has a long history of improving performance of very narrow and precise instrumentation, and our customers who manufacture probes understand the importance of proper surface technology. The Dursan® process is a chemically inert, silicon-based coating that improves corrosion resistance and reduces protein carryover promoting more accurate test results as well as more thorough cleaning, disinfection, and sterilization processing. SilcoTek's Dursan technology has been rigorously tested to ensure proper performance and to earn an NSF Certification and a USP Class VI Certification.

- **Improve Cleaning** - Dursan's inert barrier reduces contamination and buildup of biological material, while making standard rinsing easier and more effective.
- **Easy Integration** - Run processes as normal while enjoying the coating benefits. SilcoTek coatings hold up to steam and conform to parts, creating no appreciable changes to tolerances or surface morphology.
- **Enhance Performance** - Improve diagnostic sensitivity by reducing non-specific protein binding and carryover.
- **Increase Efficiency** - By improving corrosion and contamination problems, cleaning will be more effective and parts will need to be replaced less often.
- **Reduce Contamination** - An inert barrier will prevent contamination commonly caused by the sample, the reagent, or ions leaching from probe metal.



225 PennTech Drive  
Bellefonte, PA 16823

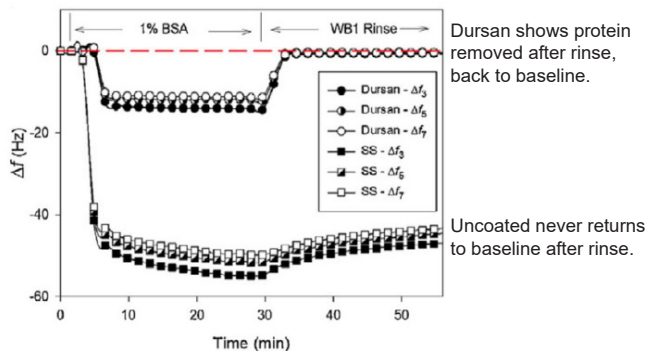

+1 (814) 353-1778


www.SilcoTek.com


Sales@SilcoTek.com

### SilcoTek solves common issues with probes like:

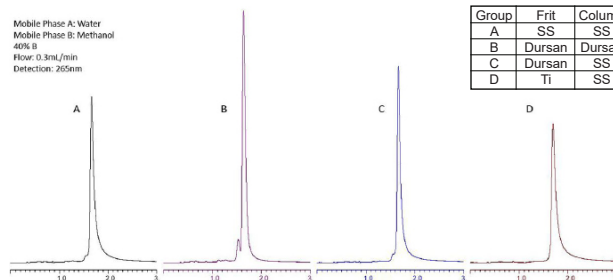
- Poor performance caused by carryover of proteins
- High costs due to corrosion, especially from bleach
- Contamination from leaching of metal ions out of equipment
- Poor analytical sensitivity for challenging samples
- Downtime caused by frequent maintenance and cleaning



**Tetracycline**

Mobile Phase A: Water  
Mobile Phase B: Methanol  
40% B  
Flow: 0.3ml/min  
Detection: 265nm

Group	Frit	Column
A	SS	SS
B	Dursan	Dursan
C	Dursan	SS
D	Ti	SS

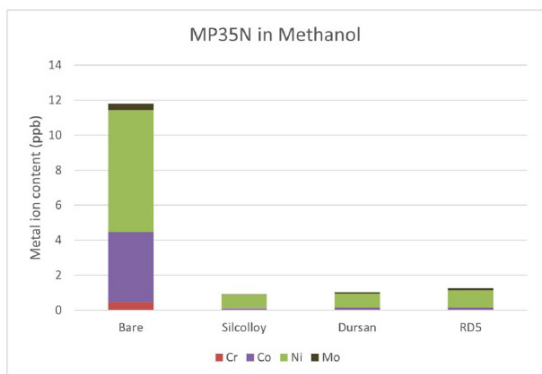


**Ensure Sensitive, Fast and Accurate Analysis**

These chromatograms show Dursan-coated hardware outperforming stainless steel and titanium while measuring a tricky, chelating agent. In group B, the analysis is more sensitive and accurate while maintaining a faster response.

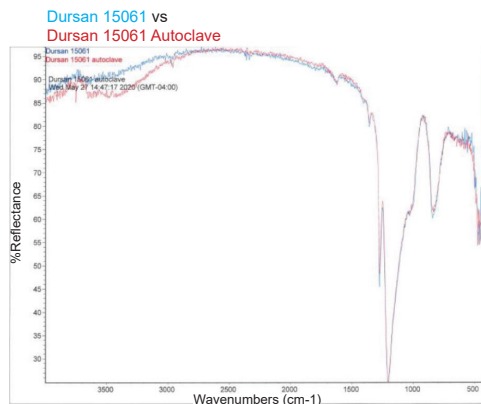
**Prevent Biologics and Protein Sticking on Metal**

When trying to eliminate biologic material from a surface, Dursan showed a more effective reduction of protein loss than stainless steel and when combined with a washing step using a non-ionic surfactant, 100% of tested proteins were removed.



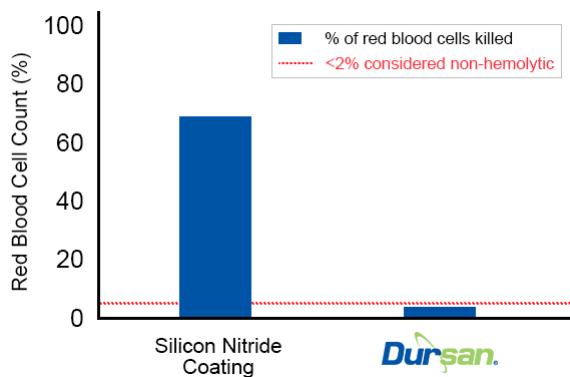
**Reduce Metal Ion Leaching and Contamination**

SilcoTek measured metal ions leaching in methanol after a month of soaking to compare MP35N and SilcoTek coatings performance. Coated samples all showed less than 1 ppb metal ion content leached into the methanol, while MP35N measured significantly worse at roughly 12 ppb of metal ions.



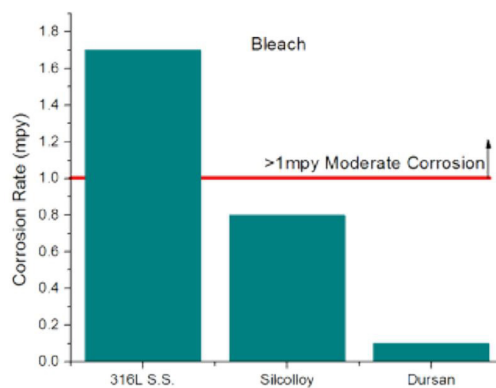
**Enjoy Performance After Steam Sterilization**

FTIR analysis shows there was little significant change observable before and after the autoclave exposure for the Dursan surface. A slight increase in Si-OH functional groups accounts for ~10° decrease in DI water contact angle.



**Increase Anti-hemolytic and Anti-sticking Properties**

SilcoTek's Dursan coating is anti-hemolytic, achieving a customer's goal of <2% red blood cells killed from a human blood sample. Stainless steel is typically 5-10% hemolytic but lacks Dursan's inert, non-stick properties. A competitive coating tested as highly hemolytic, killing over 62% of red blood cells.



**Prevent Bleach Corrosion and Variability**

ASTM G31 72 hour comparative bleach immersion studies prove that Dursan significantly reduces the risk of corrosion in diagnostic probes, thus reducing any variability.