Anti-Fouling Coating Technology

Performance Overview and Data

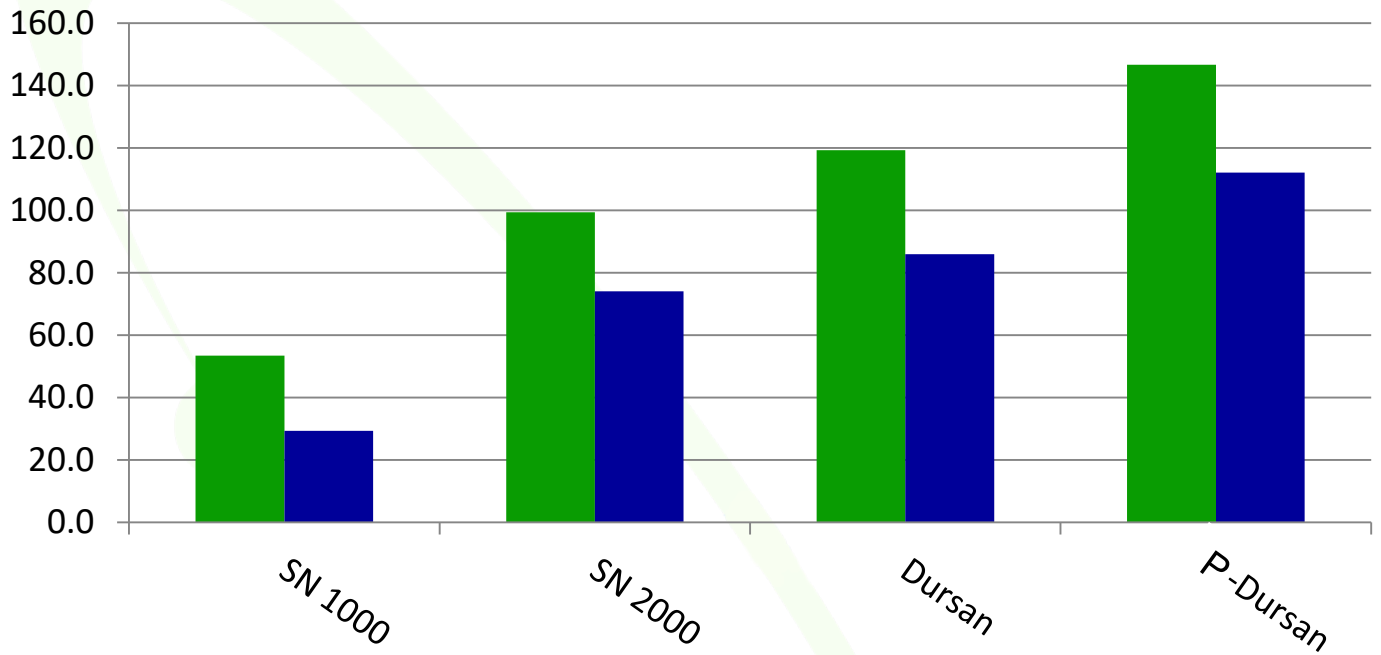
SilcoTek® Corporation

Anti-Fouling

- Low energy surfaces
  - Hydrophobic
  - Oleophobic
- Fouling – Poor efficiency
  - Heat transfer
  - Flow restriction
  - Combustion efficiency
- New prototype Dursan

reduces wetting/sticking

Properties and Performance: Hydrophobicity

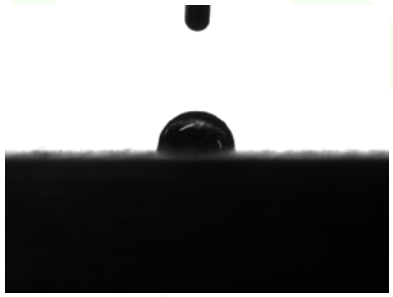


Rough Coupons

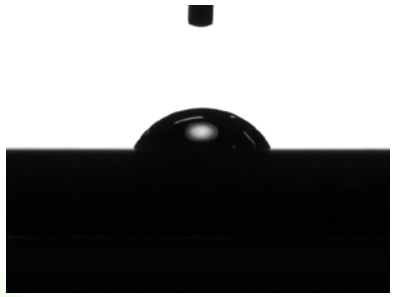
SN 1000	SN 2000	Dursan	Prototype Dursan
49°	101°	121°	163°

Rough: 120 grit; 58 rms (µin.)
Smooth: mirror-like #8; 10 rms (µin.)

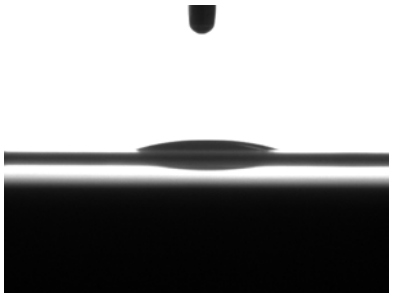
Oleophobicity studies on 316SS Coated Prototype Dursan



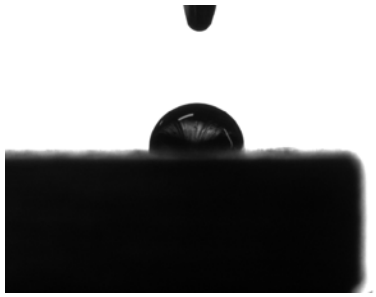
Hexadecane on rough
92.6°



Hexadecane on smooth
66.0°

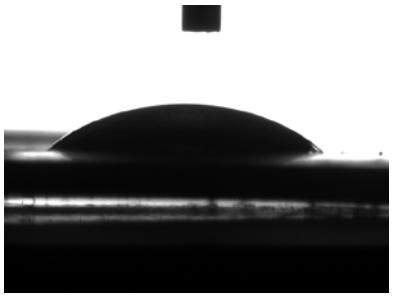


Hexadecane on Teflon
29.7°



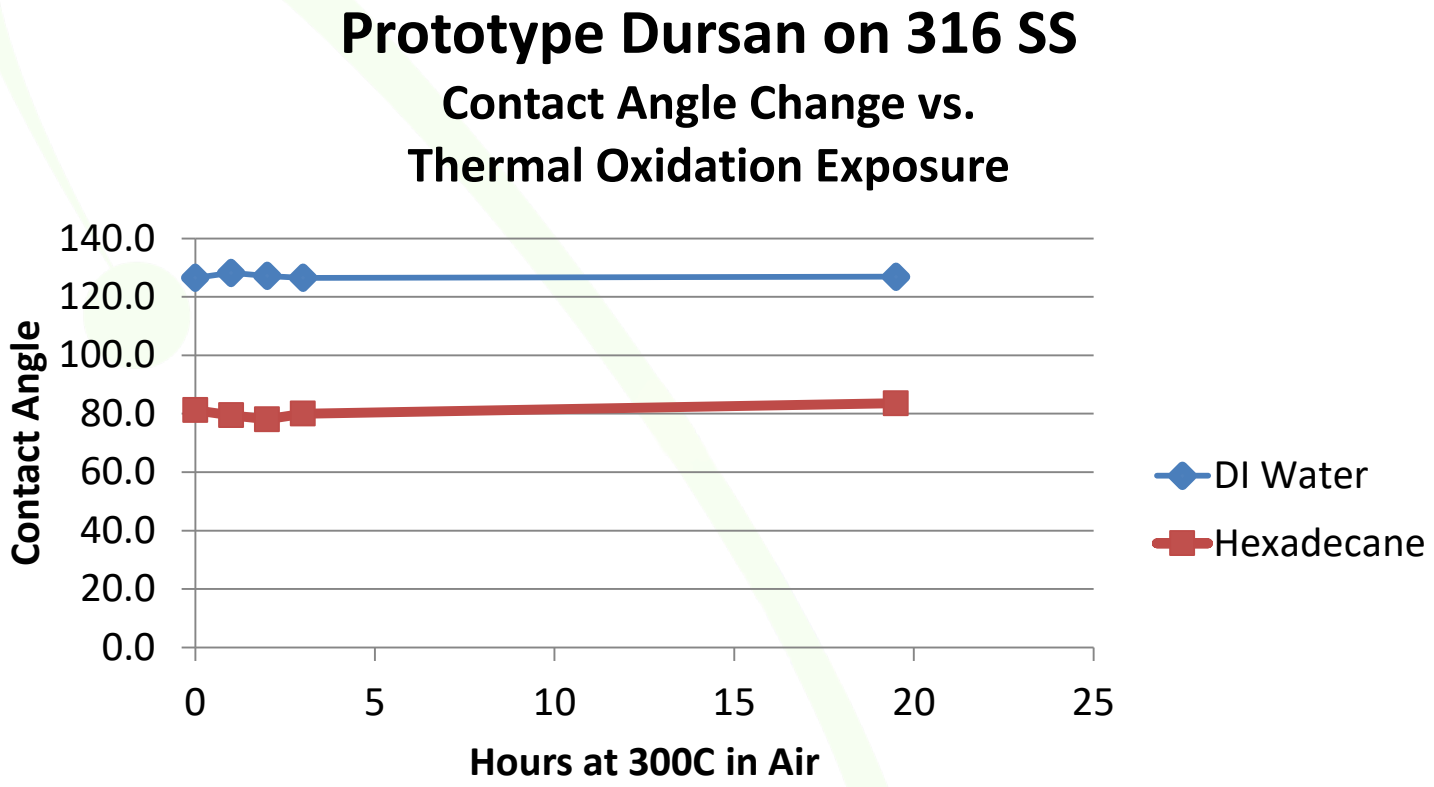
10W40 oil on rough
95.5°

10W40 oil on smooth
70.2°



10W40 oil on Teflon
48.5°

Low Energy Surfaces: Hydrophobic / Oleophobic 316 SS

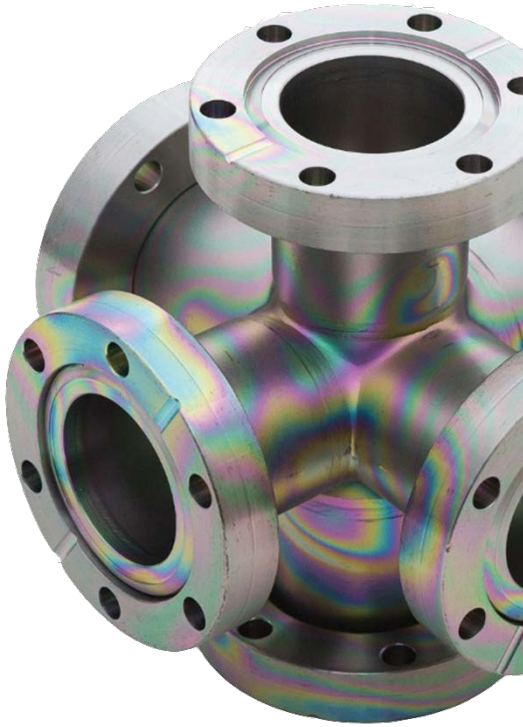


Related US Patents/Patent Applications

- Docket #s
  - 28260-0013 (2013)
  - 28260-0017 (2015)
  - 28260-0019 (2014)
  - 28260-0021 (2014)
  - 28260-0029 (2015)
  - 28260-0044 (2016)
  - 28260-0049 (2016)

Conclusion

- SilcoTek coatings solve efficiency and lifetime problems caused by surface fouling/sticking
- Low energy surface treatments offer several advantages:
  - Chemical inertness and compatibility
  - Corrosion resistance
  - Anti-sticking, anti-fouling, anti-coking
  - Improved purity
- Ultimate benefit is better performance and uptime
  - More reliable analytical results
  - Longer system life
  - Lower labor and maintenance costs
  - Higher efficiency and output
  - Optimize material selection and cost performance



Want to learn more?

- Visit our online Learning Center

- Contact our technical team:
  - Email: SilcoD@SilcoTek.com
  - Phone: +1 (814) 353-1778