

Coating Properties

SilcoTek's innovative chemical vapor deposition (CVD) process introduces proprietary process gases into a special oven containing your parts. The gas penetrates torturous passageways and provides a thin, uniform coating even on complex part geometries.

Each standard SilcoTek® coating is tailored to specific applications but can be used successfully in a wide variety of environments. Contact SilcoTek for coating recommendations.



COATING	MATERIAL COMPOSITION	MAXIMUM TEMPERATURE	CONTACT ANGLE*	WHAT IT DOES
SilcoNert® Superior inertness and chemical compatibility	Silicon (functionalized)	450° C (inert atmosphere) 400° C (oxidative)	99°	Makes surfaces non-reactive and inert. A durable, high temperature alternative to fluoropolymers like PTFE or PFA.
Dursan® Corrosion and abrasion resistant, inert, non-stick	Silicon, oxygen, carbon (functionalized)	500° C (inert atmosphere) 450° C (oxidative)	119°	Provides low surface energy and excellent protection in very corrosive environments. Hydrophobic, 2x as wear resistant as stainless steel and makes surfaces easier to clean.
Silcolloy® Oxidation resistant, high temperature	Silicon	1410° C	54°	Protects parts from oxidation and corrosion while preventing metal ions from leaching out of surfaces. Ideal for high temperature and/or high purity applications.
SilcoKlean® Anti-coking	Silicon (functionalized)	450° C (max. for functionalization) 1410° C (melting)	90°	Prevents hot fuels and gases from coking or fouling on metal surfaces. Ideal for fuel transfer and exhaust gas applications.
SilcoGuard® UHV low outgassing, high purity	Silicon	1410° C	54°	Isolates materials trapped on or in metal surfaces and prevents them from entering ultra-high vacuum or other high purity environments.
Dursox® Silica-like, ceramic	Silicon, oxygen** **<2% labile carbon	1250° C	<60°	Gives durability, erosion, and corrosion protection to processing equipment. Ideal especially for high temperature, high purity applications.
Notak™ Hydrophobic, oleophobic, anti-fouling	Direct fluoro-functionalization of surface	300° C	143°	Improves anti-wetting properties on a variety of substrate materials. Ideal for mold release, heat exchange, and other applications needing low surface energy.

*Evaluated on 120 grit, 58 rms (µin.) 300-series stainless steel

A Note on Thickness

SilcoTek's chemical vapor deposition (CVD) process has been optimized to produce surface coatings that meet the performance characteristics and material properties listed above, unrelated to thickness. All coatings are typically less than 2000 nm (2µm) thick.