Sulfinert®-Treated Sample Cylinders

Assembly & Maintenance Guidelines

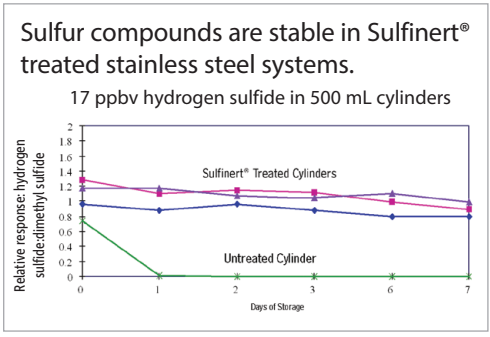
RESTEK®

www.restek.com

(Sulfinert® Treated) High Pressure Sample Cylinders

- Sulfinert® coating provides stable storage of sulfur and mercury at ppb levels in petroleum samples.
- Inert coating doesn't flake; more durable than PTFE.
- TPED compliant cylinders now available for shipping into EU countries.
- All cylinders have 1/4" female NPT threads on both ends.

Refinery and natural gas samples often contain trace amounts of sulfur-containing compounds which can interfere with reactions or poison catalysts in petrochemical processes. Because sulfur compounds quickly react with stainless steel surfaces, accurate determination of these compounds is impossible when samples are collected and stored in untreated sample cylinders. The Sulfinert® passivation technique bonds an inert silica layer into the surface of stainless steel, preventing active compounds from reacting with or adsorbing to the steel. These Swagelok® high pressure sample cylinders are Sulfinert® treated for greater stability of sulfur compounds and mercury. DOT rating to 1,800 and 5,000 psig allows sampling at gas wellheads as well as in the refinery. Use of high pressure sample cylinders is cited in ASTM D1265, Standard Practice for Sampling Liquefied Petroleum (LP) Gases, Manual Method.



304L Stainless Steel

		1,800 psig		TPED, 1,450 psig	
Size	qty.	Swagelok part #	cat.#	Swagelok part #	cat.#
75cc	ea.	304L-HDF4-75	24130	304L-HDF4-75-PD	24130-PI
150cc	ea.	304L-HDF4-150	24131	304L-HDF4-150-PD	24131-PI
300cc	ea.	304L-HDF4-300	24132	304L-HDF4-300-PD	24132-PI
500cc	ea.	304L-HDF4-500	24133	304L-HDF4-500-PD	24133-PI
1000cc	ea.	304L-HDF4-1000	24134	304L-HDF4-1000-PD	24134-PI
2250cc	ea.	304L-HDF4-2250	21394	304L-HDF4-2250-PD	21394-PI

316L Stainless Steel

		5,000 psig		TPED, 4,350 psig	
Size	qty.	Swagelok part #	cat.#	Swagelok part #	cat.#
150cc	ea.	316L-50DF4-150	22111	316L-50DF4-150-PD	22111-PI
300cc	ea.	316L-50DF4-300	22112	316L-50DF4-300-PD	22112-PI
500cc	ea.	316L-50DF4-500	22113	316L-50DF4-500-PD	22113-PI

also **available**

Certificates are available upon request.

Assembling the Sample Cylinder and Valve

We recommend using a new valve with your new cylinder. If a valve has been used previously, the threads might be damaged and possibly will not make a proper seal.

1. Clean the threads on the valve and cylinder, then examine the threads for damage such as burrs, dents, nicks, or gouges. Reject or repair a valve or cylinder with threads showing these defects.
2. Apply 3 wraps of PTFE tape (e.g., ResTape, cat.#22486) to the valve threads, leaving the first (lead) thread exposed.
3. Install the valve onto the cylinder by inserting and hand tightening to engage at least 2 but no more than 3 threads. If the valve fails to start easily, examine to confirm the valve is to gauge. Also, recheck the valve and cylinder for damaged threads.
4. Secure the valve and cylinder assembly in a holding device, using protective material around the cylinder to prevent gouging of the sidewall. Using a torque wrench, tighten the valve to 8 to 10 foot-pounds, maximum. This torque should produce another 2 to 3 threads engagement, for a total engagement of 4 to 6 threads.

Cleaning

To clean a treated part, rinse with a solvent that will dissolve probable surface contaminants (i.e., use a nonpolar solvent to remove hydrocarbon contaminants, or a more polar solvent to remove more active contaminants). Avoid using cleaners containing abrasives as they can scratch the surface layer. Mild sonication might assist in removing contaminants, but do not oversonicate—this could damage the surface layer.
Do not use basic solutions with pH>8.

Do not steam clean any Restek treated system components or line, as this could damage the surface layer.

Treatment Layer Appearance

The appearance of a Restek treated surface can vary from lot to lot. Small variations in surface thickness (measured in angstroms) affect layer appearance. The surface finish should be bright and free of defects, but original surface condition can have a major impact on final surface quality.

Your parts are cleaned after treatment; however, the surface may contain some trace silicon (black particles) as a byproduct of the treatment process. Residual silicon can be removed by rinsing with a solvent or by sonication in water (do not oversonicate).

Galling

As with any threaded fitting, galling may occur when assembling two treated threaded parts. To prevent thread damage, use a thread lubricant or PTFE tape (e.g. ResTape Stainless Steel Thread Sealing PTFE tape, cat.# 22487). Galling potentially can be reduced when assembling a treated part and an untreated part.

Treatment Layer Troubleshooting

Under normal use, your treated items should deliver outstanding performance for years to come. However, effective lifetime is dependent on the severity of the environment. Factors that can impede performance are:

Contamination Failure to properly clean the surface can allow increased surface activity. If performance changes, thoroughly clean the surface and inspect the layer for damage.

Erosion Contact with abrasives can accelerate surface wear.

Bases Contact with a base (pH 8 or higher) can accelerate deterioration of the layer.

Surface finish and color should stay consistent throughout the life of the product. Changes in the finish or color may indicate a partial loss of the layer. To prevent further loss, ensure no exposure to bases or abrasives. For additional information, visit **www.restek.com** or contact our technical service department at 1-800-356-1688, ext. 4.

Sample Cylinder Valves

- Multiple valve configurations, including dip tube and rupture disks.
- Large, durable, Kel-F® seat ensures leak-free operation.
- Temperature range: -40 °C to 120 °C

21400

21401

21402

Sulfinert Treated Description	3,500 psig cat.#	5,000 psig cat.#
1/4" Male NPT x 1/4" Male NPT	21400	26307
1/4" Male NPT x 1/4" Female NPT	26299	26309
1/4" Male NPT x 1/4" Male Compression	21401	26311
1/4" Male NPT x 1/4" Male NPT w/5.25" Dip Tube*	21402	26313
1/4" Male NPT x 1/4" Male NPT w/1,800 psi Rupture Disc	26303	26315
1/4" Male NPT x 1/4" Female NPT w/1,800 psi Rupture Disc	26305	26317

*Please call Customer Service at 1-800-356-1688, ext. 3, or contact your Restek representative. Specify dip tube length or % outage when ordering (maximum length = 5.25"/ 13.3 cm). Note: End of part will not be treated after cutting tube to length.

Rupture Disc Tee

Description	Sulfinert Treated cat.#
1,800 psig DOT Pressure Rating Rupture Disc Tee, 1/4" Male NPT x 1/4" Female NPT	26319
2,850 psig DOT Pressure Rating Rupture Disc Tee, 1/4" Male NPT x 1/4" Female NPT	26323

Metering Control Valves

Description	Sulfinert Treated cat.#
3,500 psig DOT Pressure Rating Metering Control Valve, 1/4" Male NPT x 1/4" Male NPT	26327

RESTEK®

ISO 9001 - 17025 - Guide 34