



# Inert, High-Quality Fittings and Tubing for Demanding Applications

by Gary Barone, Restek Performance Coatings Division

## Siltek™/Sulfinert® and Silcosteel®-CR Treated Swagelok® Fittings

- ✓ Siltek™/Sulfinert® treatment\* ensures ultimate inertness.
- ✓ Silcosteel®-CR treatment enhances acid resistance tenfold, or more.
- ✓ Restek treatments cannot chip, flake, or delaminate.
- ✓ Custom treatment available.

Swagelok® fittings are world-renowned for meeting demanding standards. Now, Restek is pleased to set the new standard for inert or corrosion-resistant tubing system components: Swagelok® products with Restek's unparalleled surface treatments—Siltek™ or Silcosteel®-CR treatment—available from stock.

Siltek™ treatment, which is equivalent to Sulfinert® treatment, is the ideal choice for ultimate inertness, intended specifically for systems used to collect, store, and transfer active compounds. The most reactive sample components can be stored and transferred via a Siltek™ treated system: even at parts-per-billion levels, sulfur-containing or other

very active compounds exhibit virtually no adsorption. And, unlike coatings, Siltek™ and other Restek treatments produce a layer that is integral with the fitting surface—it will not chip, flake, or delaminate, even in the most stressful applications.

Silcosteel®-CR treatment is highly effective protection for stainless steel exposed to hydrochloric, nitric, or sulfuric acid, or to marine environments. In independent tests, Silcosteel®-CR treatment upgraded the corrosion resistance of 300-grade stainless steel samples by an order of magnitude (Table 1) and totally protected them against crevice corrosion (Figure 1).



If you need to construct a system for a demanding application, you will not find more suitable fittings than Restek treated Swagelok® fittings. Siltek™, Silcosteel®-CR, or other Restek surface treatments can be applied to other fittings or parts on request—contact our Technical Service chemists or your Restek representative.

**Table 1** Silcosteel®-CR treated stainless steel coupons show little weight loss after exposure to 6% w/w ferric chloride solution.

Sample	Weight Loss (g/m <sup>2</sup> )
Silcosteel®-CR 17	19
Silcosteel®-CR 28	25
Silcosteel®-CR 47	25
Bare Steel 27	231
Bare Steel 34	209
Bare Steel 37	228

**Figure 1** Silcosteel®-CR treated 316L stainless steel coupons show no crevice corrosion and only slight pitting corrosion (top), while bare 316L stainless steel coupons exhibit severe crevice corrosion (bottom).



Fitting Type	Size	Similar to Swagelok® #	Siltek™/Sulfinert®			Silcosteel®-CR		
			qty.	cat.#	price	qty.	cat.#	price
Union	1/16"n	SS-100-6	ea.	22540		ea.	22575	
	1/8"n	SS-200-6	ea.	22541		ea.	22576	
	1/4"n	SS-400-6	ea.	22542		ea.	22577	
Tee	1/16"n	SS-100-3	ea.	22543		ea.	22578	
	1/8"n	SS-200-3	ea.	22544		ea.	22579	
	1/4"n	SS-400-3	ea.	22545		ea.	22580	
Reducing Union	1/8"n to 1/16"n	SS-200-6-1	ea.	22546		ea.	22581	
	1/4"n to 1/16"n	SS-400-6-1	ea.	22547		ea.	22582	
	1/4"n to 1/8"n	SS-400-6-2	ea.	22548		ea.	22583	
Union Elbow	1/8"n	SS-200-9	ea.	22549		ea.	22584	
	1/4"n	SS-400-9	ea.	22550		ea.	22585	
Plug	1/16"n	SS-100-P	ea.	22572		ea.	22619	
	1/8"n	SS-200-P	ea.	22573		ea.	22620	
	1/4"n	SS-400-P	ea.	22574		ea.	22597	
Cross	1/8"n	SS-200-4	ea.	22551		ea.	22586	
	1/4"n	SS-400-4	ea.	22552		ea.	22587	
Tube End Reducer	1/8"n tube to 1/16"n	SS-100-R-2	ea.	22553		ea.	22588	
	1/4"n tube to 1/16"n	SS-100-R-4	ea.	22554		ea.	22589	
	1/8"n tube to 1/4"n	SS-400-R-2	ea.	22555		ea.	22590	
	1/4"n tube to 1/8"n	SS-200-R-4	ea.	22556		ea.	22591	
Port Connector	1/8"n	SS-201-PC	ea.	22557		ea.	22592	
	1/4"n	SS-401-PC	ea.	22558		ea.	22593	
	1/8"n tube to 1/4"n	SS-401-PC-2	ea.	22559		ea.	22594	
Male Connector	1/8"n to 1/8"n NPT	SS-200-1-2	ea.	22561		ea.	22595	
	1/4"n to 1/4"n NPT	SS-400-1-4	ea.	22562		ea.	22596	
	1/16"n to 1/8"n NPT	SS-100-1-2	ea.	22563		ea.	22610	
	1/8"n to 1/4"n NPT	SS-200-1-4	ea.	22564		ea.	22611	
	1/4"n to 1/8"n NPT	SS-400-1-2	ea.	22565		ea.	22612	
Female Connector	1/8"n to 1/8"n NPT	SS-200-7-2	ea.	22566		ea.	22613	
	1/4"n to 1/4"n NPT	SS-400-7-4	ea.	22567		ea.	22614	
	1/4"n to 1/8"n NPT	SS-400-7-2	ea.	22568		ea.	22615	
	1/8"n to 1/4"n NPT	SS-200-7-4	ea.	22569		ea.	22616	
Bulkhead Union	1/8"n	SS-200-61	ea.	22570		ea.	22617	
	1/4"n	SS-400-61	ea.	22571		ea.	22618	

## Siltek™ and Silcosteel®-CR Treated Electropolished Stainless Steel Tubing

- ✓ Exceptional inertness.
- ✓ Improved reliability and reproducibility; longer lifetime.
- ✓ Use with treated fittings for the most inert sample pathway available.

Restek also sets the highest standard in transfer tubing for analytical and process applications. The near-mirror finish of this electropolished tubing (surface roughness of only 5-7 micro-inches) creates a very small surface area that, in combination with unequalled Restek surface treatments, ensures superior inertness (Siltek™) or greatly enhanced corrosion resistance (Silcosteel®-CR). Further, we can provide continuous coils of 1/8" tubing up to 100 feet (30.5m) or 1/4" tubing up to 300 feet (91.4m)—a first for electropolished tubing.

The extremely inert Siltek™ surface is ideal in sulfurs or automotive exhaust testing, stack gas sampling, process monitoring, or any other application in which a representative sample must be transferred without loss.

In systems used to transfer hydrochloric, nitric, sulfuric, or other acids, or seawater, Silcosteel®-CR treated electropolished stainless steel tubing will last longer and require less maintenance. Silcosteel®-CR treated samples were very well protected from pit-

ting and crevice corrosion, compared to bare steel samples (Table 1 and Figure 1, p. 10).

For maximum inertness, we recommend a sample transfer system constructed from Restek treated electropolished stainless steel tubing and Restek treated Swagelok® fittings. To find out how Restek treated components will improve your system's performance, contact our Technical Service Group (ext. 4), or your Restek representative, and ask to speak with our coatings experts.

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1/8" OD: 5 ft. to 100 ft. in one continuous coil;  
1/4" OD: 5 ft. to 300 ft. in one continuous coil.  
Longer lengths will be more than one coil.

### Siltek™/Sulfinert® Treated Electropolished Stainless Steel Tubing

ID	OD	cat.#	Price-per-foot			
			5-24 ft.	25-99 ft.	100-299 ft.	> 300 ft.
0.085"	1/8"	22538				
0.180"	1/4"	22539				

### Silcosteel®-CR Treated Electropolished Stainless Steel Tubing

ID	OD	cat.#	Price-per-foot			
			5-24 ft.	25-99 ft.	100-299 ft.	> 300 ft.
0.085"	1/8"	22536				
0.180"	1/4"	22537				