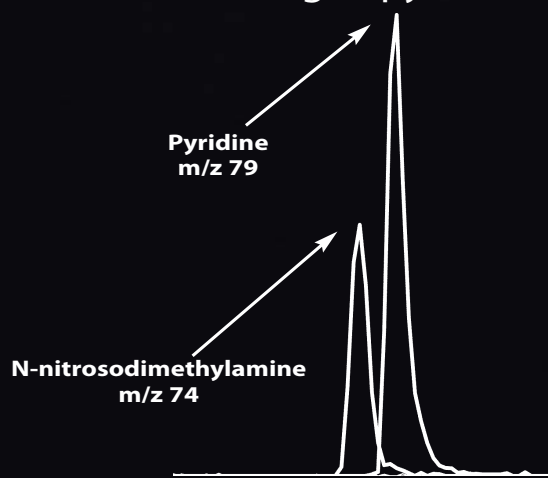


# Rxi™ -5ms Columns

Restek's Exceptionally Inert (Rxi™)  
Fused Silica Capillary Columns

- Unsurpassed inertness for low level basic and acidic compounds.
- Ultra-low bleed
- Reliable performance, guaranteed column-to-column reproducibility

Sharp, symmetric peak  
for 0.5ng of pyridine!



GC\_EV00807



Chromatography Products

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# Rxi™-5ms Fused Silica Columns

## Restek's Exceptionally Inert (Rxi™) Fused Silica Capillary Columns

- Unsurpassed inertness for low level basic and acidic compounds.
- Ultra-low bleed
- Reliable performance, guaranteed column-to-column reproducibility
- Guaranteed to work perfectly with retention time-locking software.

### The Ultimate High Performance Fused Silica Capillary Column

The Restek research chemists have developed new technology for making GC capillary columns, including new deactivation chemistry, new polymer synthesis routes, and a new manufacturing process. The overall results of these efforts are columns demonstrating unsurpassed inertness, ultra-low bleed, and totally reliable column-to-column performance.

#### Excellent Inertness

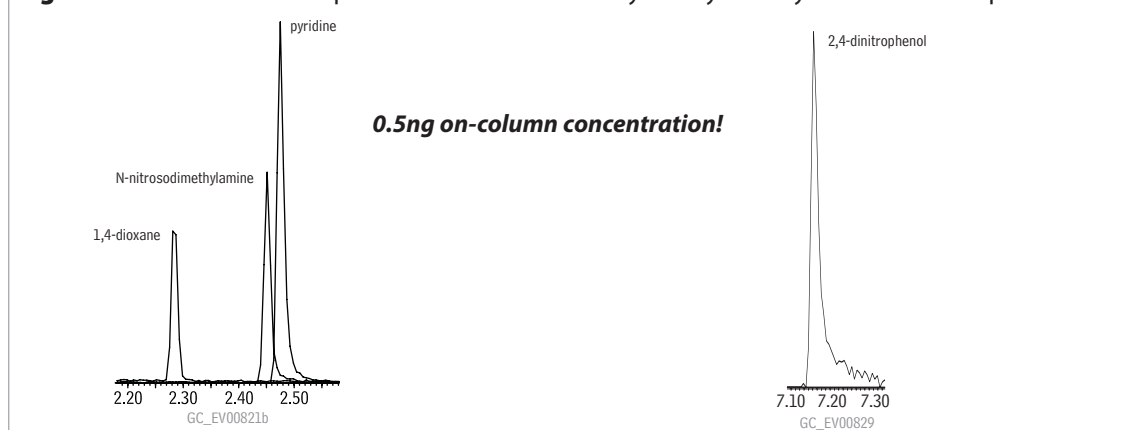
Many acidic and basic compounds require the inertness of Rxi™-5ms columns. We use 2,4-dinitrophenol (acidic) and pyridine (basic) to evaluate the inertness of our columns. Surface activity in the column is revealed by the peak shapes for these analytes, and sub-nanogram test quantities make for a stringent test. The data below show the peak response for 0.5ng of pyridine and 0.5ng of 2,4-dinitrophenol on an Rxi™-5ms, 30m x 0.25mm, 0.25µm film column. Rxi™-5ms columns' excellent inertness allows acidic or basic compounds to be analyzed under the same conditions.



#### Restek's exceptionally inert (Rxi™) fused silica capillary columns:

The processes we use to make new Rxi™ columns enable us to **guarantee** highly uniform performance, column-to-column and lot to lot, including perfect match-up with retention time-locking software. It is our promise and commitment to you that every Rxi™ column you receive will be **exactly** as good as the one it replaces.

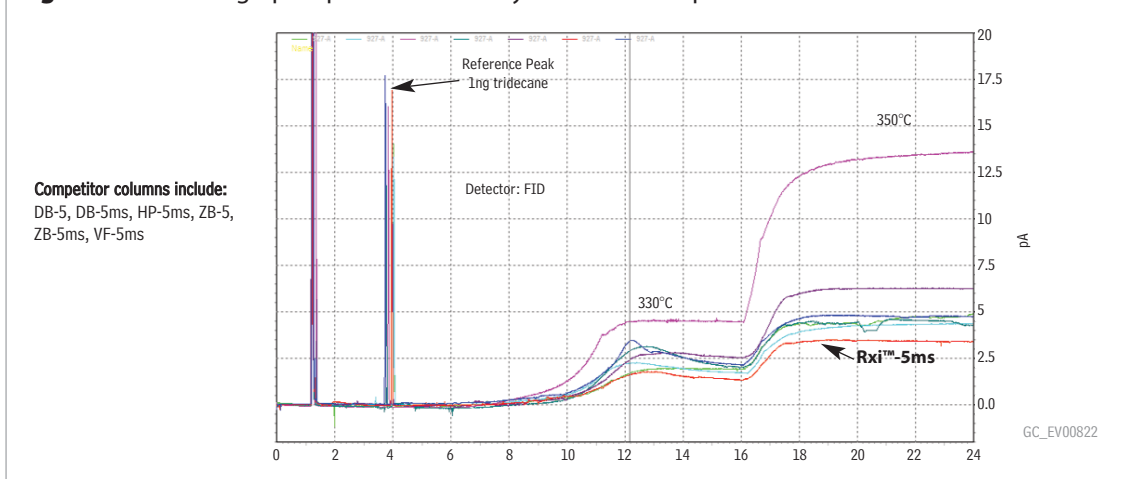
**Figure 1** Rxi™-5ms columns provide excellent sensitivity and symmetry for difficult compounds.



#### Ultra Low Bleed

Bleed from Rxi™-5ms columns is negligible, simplifying trace-level GC/MS analysis or detection by electron capture (ECD), nitrogen-phosphorus (NPD), or other sensitive methods. The graph below shows the bleed from 30m x 0.25mm, 0.25µm film columns. Compared to the other columns, including silarylene type phases, the Rxi™-5ms column exhibits the lowest bleed.

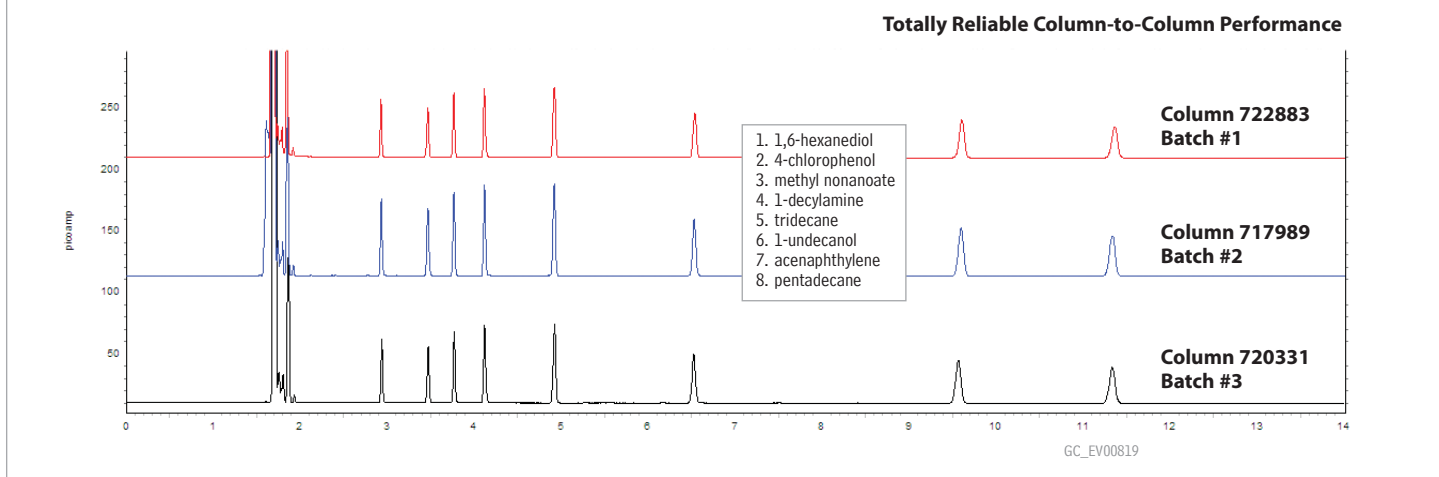
**Figure 2** Chromatographic profiles for widely used columns prove Rxi™-5ms has the lowest bleed!



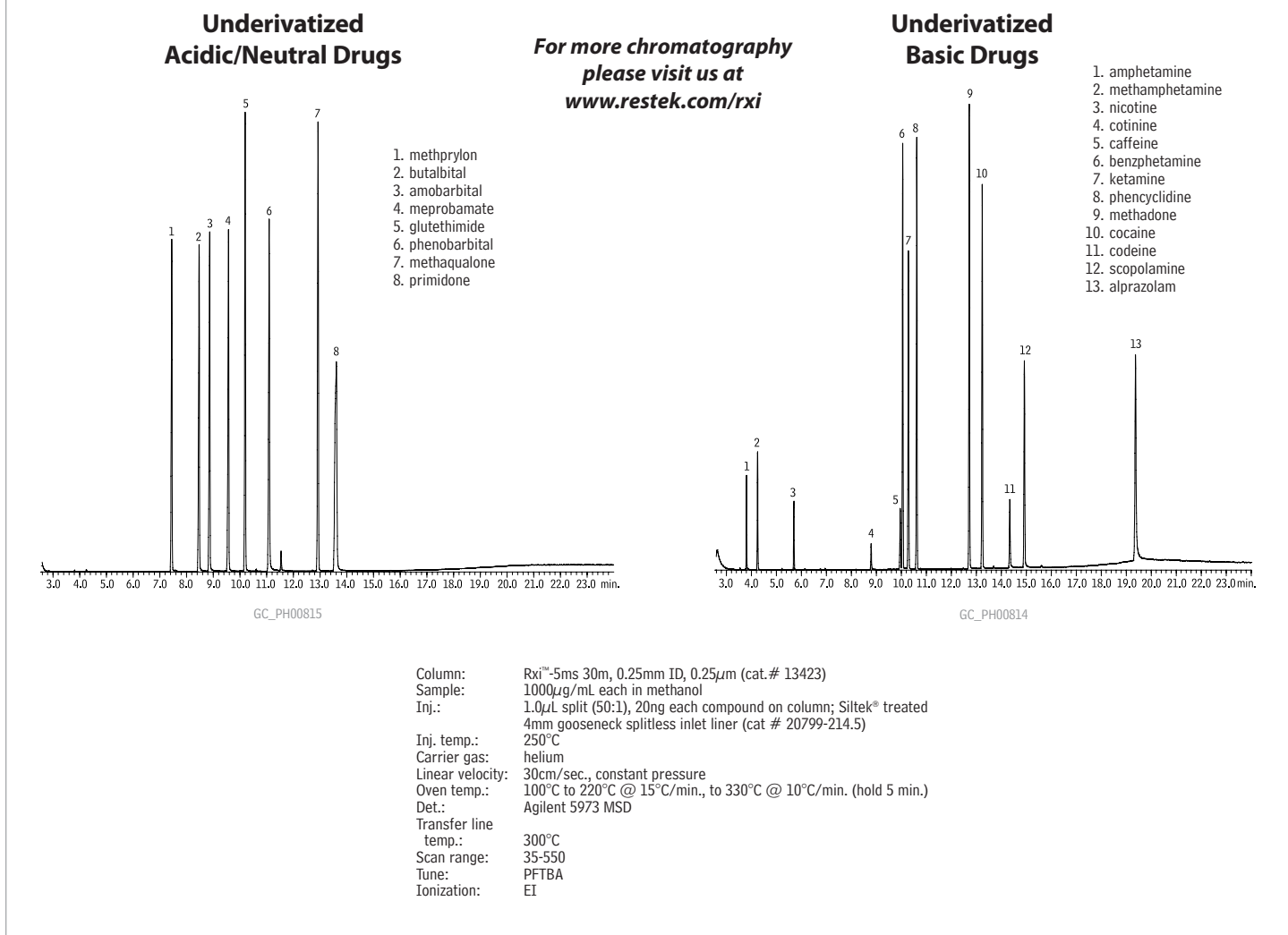
## Reliable Column-to-Column Performance

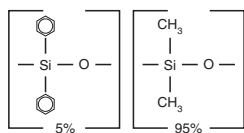
Chromatographers need to know every column they receive is going to perform in the same way as the column it replaces. Rxi™-5ms column technology has enabled us to tighten our quality control standards for passing columns, and guarantees column reproducibility. Columns from three manufacturing batches show the excellent reproducibility of retention times and peak shape assured by the new manufacturing process.

**Figure 3** Three manufacturing batches of Rxi™ columns show excellent reproducibility (isothermal test mix).



**Figure 4** Rxi™-5ms columns' excellent inertness allows acidic or basic compounds to be analyzed under the same conditions.





## Guaranteed Quality and Reliability

Restek is committed to supplying the most reliable GC columns in the industry. Every Rxi™-5ms column is individually challenged to pass our stringent requirements for film thickness, selectivity, inertness, coating efficiency, and bleed. We believe Rxi™-5ms column technology produces the most reliable columns available, anywhere, and it is our promise and commitment to you that every Rxi™-5ms column you receive will be as good as the one it replaces.

### Rxi™-5ms Fused Silica Columns

- Nonpolar 5% diphenyl 95% dimethylpolysiloxane phase (equivalent to USP phase G27).
- Most widely used general purpose column.
- Temperature range: -60°C to 330/350°C (330° = bleed tested temperature/350° = maximum operating temperature).



**Typical Applications:** alcohols, amines, aromatic hydrocarbons, bile acids, drugs, US EPA methods, esters, fatty acid methyl esters (FAMES), flavors and aromas, glycerides, halogenated hydrocarbons, herbicides, hydrocarbons, organic acids, oxygenates, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), pesticides, phenols, polymers, solvents, steroids, sugars, sulfur compounds.

**Similar to these phases:** DB-5, DB-5ms, HP-5, HP-5ms, SPB-5, Equity-5, SLB-5, Ultra-5, BPX-5, 007-5, AT-5, Optima-5, ZB-5, ZB-5ms, VF-5ms, CP-Sil 8 CB, Rtx-5, Rtx-5MS, Xti-5  
Selectivity of Rxi-5ms is equivalent to HP-5 and HP-5ms.

### Rxi™-5ms Columns (fused silica)

(Crossbond® 5% diphenyl / 95% dimethyl polysiloxane)

ID	df (μm)	temp. limits	15-Meter	30-Meter	60-Meter	
0.25mm	0.25	-60 to 330/350°C	13420	13423	13426	
	0.40	-60 to 330/350°C		13481		
	0.50	-60 to 330/350°C	13435	13438	13441	
	1.00	-60 to 330/350°C	13450	13453	13456	
0.32mm	0.25	-60 to 330/350°C	13421	13424	13427	
	0.50	-60 to 330/350°C	13436	13439	13442	
	1.00	-60 to 330/350°C	13451	13454	13457	
0.53mm	0.25	-60 to 330/350°C	13422	13425		
	0.50	-60 to 330/350°C	13437	13440		
	1.00	-60 to 330/350°C	13452	13455		
	1.50	-60 to 330/350°C	13467	13470		
ID	df (μm)	temp. limits	12-Meter	20-Meter	25-Meter	50-Meter
0.18mm	0.18	-60 to 330/350°C		13402		
	0.30	-60 to 330/350°C		13409		
	0.36	-60 to 330/350°C		13411		
0.20mm	0.33	-60 to 330/350°C	13497		13498	13499

### Rxi™ Test Mix (Rev. A) (8 components)

acenaphthylene	methyl nonanoate
4-chlorophenol	<i>n</i> -pentadecane
<i>n</i> -decylamine	<i>n</i> -tridecane
1,6-hexanediol	1-undecanol

1,000 μg/mL each in toluene, 1mL/ampul  
cat. # 35241 (ea.)

**For more chromatography please visit us at**  
**[www.restek.com/rxi](http://www.restek.com/rxi)**

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