



### COLUMN COIL DIAMETER

MXT~ columns are coiled into 4" diameters or smaller Fused Silica columns are 7.65" in diameter. Analyses requiring excellent inertness and high efficiency can be performed with either fused silica or stainless steel (Silcosteel®) columns.

Applications: solvents, petroleum products, pharmaceutical samples, waxes, fuel oils.

### CROSSBOND®

Restek's Crossbond® procedure produces columns with lower bleed and longer lifetime and allows rejuvenation through solvent rinsing.

The maximum temperatures listed are for 15- and 30-meter lengths. Longer lengths may have a slightly reduced maximum temperature.

**NEW**

### □ Rtx-1 / MXT-1

- Ideal for the analysis of solvents and petrochemicals.
- Thermally stable to 360°C (MXT® stable to 400°C).
- Available in unbreakable Silcosteel® (MXT) tubing.
- Similar to DB-1, SPB-1, HP-1, & Ultra-1.

The Rtx®-1 / MXT®-1 columns are coated with crossbonded polydimethylsiloxane stationary phase. Polydimethylsiloxane is the most popular non-polar stationary phase in use. It is one of the most rugged polymers that exhibits long lifetimes and low bleed at high operating temperatures. Frequently used for the analysis of solvents and petrochemicals. Rtx®- 1 / MXT®-1 columns are available in a wide variety of lengths, diameters, and film thicknesses.

The Rtx®-1 polymer is synthesized to exacting standards. Our silicone chemists utilize a proprietary synthesis process that ensures no residual catalyst that could cause degradation and increase bleed remains in the polymer. The polymer is then carefully fractionated to remove low molecular weight fragments, providing a tight mono-modal distribution which results in extremely low bleed. The polymer is fully characterized to ensure long-term reproducibility. Characterization testing includes RI, FTIR, Kovats Indices, % crosslinking, efficiency, and a five-day thermal bake-out to ensure column longevity. New batches of polymers are used only when they meet Restek's stringent QA tests, and each lot is subsequently tracked in an extensive data base for future reference.

The MXT®-1 column is an unbreakable fused-silica-lined stainless steel column offering comparable efficiency and inertness to fused silica tubing, but with increased durability. MXT® columns are caged in 4" diameter coils, or smaller which are ideal for compact GCs with small ovens. MXT®-1 columns are also ideal for process or portable GCs where column integrity is of great importance or for any lab wanting to avoid down-time due to spontaneous breakage. MXT® columns also provide

### Rtx-1 (Fused Silica)

(Crossbond 100% dimethyl polysiloxane) Stable to 360C

ID	df(um)	temp. limits	15-metre	30-metre	60-metre	105-metre	
0.25mm	0.10	-60 to 330/350°C	10105	10108	10111	10114	
	0.25	-60 to 330/350°C	10120	10123	10126	10129	
	0.50	-60 to 330/350°C	10135	10138	10141	10144	
	1.00	-60 to 320/340°C	10150	10153	10156	10159	
	0.50mm	0.10	-60 to 330/350°C	10106	10109	10112	10115
		0.25	-60 to 330/350°C	10121	10124	10127	10130
		0.50	-60 to 330/350°C	10136	10139	10142	10145
		1.00	-60 to 320/340°C	10151	10154	10157	10160
		1.50	-60 to 310/300C	10166	10169	10172	10175
		3.00	.60 to 280/300°C	10181	10184	10187	10190
5.00		-60 to 280/300°C		10198			
7.00	-60 to 260/280°C	10176	10178	10180			
0.53mm	0.10	-60 to 260/280°C	10107	10110	10113		
	0.25	-60 to 320/340°C	10122	10125	10128		
	0.50	-60 to 310/340°C	10137	10140	10143		
	1.00	-60 to 310/330°C	10152	10155	10158		
	1.50	-60 to 310/330°C	10167	10170	10173		
	3.00	-60 to 270/290°C	10182	10185	10188	10189	
	5.00	-60 to 270/290°C	10177	10179	10183	10194	
	7.00	-60 to 240/260°C	10191	10192	10193		
0.18mm	0.10	-60 to 330/350°C	41101	41102			
	0.40	-60 to 320/340°C	41103	41104			
	0.10	-60 to 330/350°C	40101	40102	40103		
	0.40		-60 to 320/340°C	40110	40111	40112	

Restek  
Australian  
Distributors

Chromalytic Technology Pty Ltd

Fax : +61 3 9761 1169 Phone : +61 3 9762 2034

E-mail : jimjeffs@chromtech.net.au

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### MXT-1 / Rtx-1 PONA

#### Restek's MXT Columns

roughed, flexible fused silica lined stainless steel

*The maximum temperatures listed are for 15 and 30-meter lengths. Longer lengths may have a slightly reduced maximum temperature.*

#### Applications:

detailed hydrocarbon analysis.

#### CROSSBOND®

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*The maximum temperatures listed are for 15- and 30-meter lengths. Longer lengths may have a slightly reduced maximum temperature.*

#### □ MXT-1 (Silcosteel)

(Crossbond® 100% dimethyl polysiloxane)\*\*\* Stable to 300°C

ID	df(um)	temp. limits	6-metre	15-metre	30-metre	60-metre	105-m
0.28mm	0.10	-60 to 360°C	70112**	70106	70109		
	0.25	-60 to 360°C		70121	70124	70127	
	0.50	-60 to 330°C		70136	70139	70142	
	1.00	-60 to 320°C		70151	70154	70157	
0.53mm	0.15	-60 to 400°C	70101**				
	0.25	-60 to 360°C		70122	70125	70128	
	0.50	-60 to 330°C		70137	70140	70143	
	1.00	-60 to 320°C		70152	70155	70158	
	1.50	-60 to 310°C		70167	70170	70173	
	3.00	-60 to 285°C		70182	70185	70188	70189
	5.00	-60 to 270°C		70177	70179	70183	
	7.00	-60 to 250°C		70191	70192	10183	

\*\* temp limits are -60 to 400C for this column \*\* 6-metre column for simulated distillation

#### □ Rtx®-1PONA

- Exceeds ASTM and CGSB requirements for detailed hydrocarbon analysis.
- Column testing tailored to ensure column-to-column reproducibility for PONA analysis.
- Crossbond® for low bleed and extended column lifetime.
- Exceptional stability.

The Rtx®-1 PONA polymer was designed to offer the exact polarity necessary to resolve hydrocarbons in the specific order requested by most petrochemical companies.

DetaHed hydrocarbon analysis provides specific information regarding the chemical composition of gasoline and similar petroleum products. This information is useful in evaluating the performance of a refinery process in calculating the chemical 'value' of a particular hydrocarbon stream by determining the % paraffins (P), alkenes (olefins), naphthenes (N), and aromatics (A).

Because the task of calibrating hundreds of peaks is extremely time consuming, committees such as the American Society for Testing and Materials (ASTM) and the Canadian General Standards Board (CGSB) have developed standardized methodology for detailed hydrocarbon analysis. These methods specify a 100-meter column that must give reproducible retention data if laboratories are to obtain accurate results. In order to meet these demanding resolution and retention criteria, Restek has developed unique quality control tests and specifications for the Rtx-1 PONA column. The measured values for retention (k), efficiency (n) and stationary phase selectivity (RI) are controlled so that each column exceeds the requirements of the ASTM and CGSB methods.

#### Rtx-1 PONA (Fused Silica)

(Crossbond® 100% dimethyl polysiloxane)\*\*\* Stable to 300°C

ID	df(um)	temp. limits	15-metre
0.25mm	0.50	-60 to 300/320°C	10105

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Australian  
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**Chromalytic Technology Pty Ltd**

Fax : +61 3 9761 1169 Phone : +61 3 9762 2034

E-mail : jimjeffs@chromtech.net.au

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