

### Rtx®-1701 Columns (fused silica) (midpolarity Crossbond® phase)

- General-purpose columns for alcohols, oxygenates, PCB congeners (e.g., Aroclor mixes), pesticides, and fragrance compounds.
- Temperature range: -20 °C to 280 °C.
- Equivalent to USP G46 phase.

Rtx®-1701 is one of the more popular stationary phases used in capillary GC. The mix of cyano and phenyl functional groups increases the polarity and offers a different elution order relative to less polar Rtx®-1 or Rtx®-5 columns. An Rtx®-1701 column is ideal for confirmation analysis in combination with an Rtx®-35 or Rtx®-5 column. The polymer is fully characterized to ensure long-term reproducibility, column-to-column consistency, and low bleed, even with sensitive detectors such as ECDs and MSDs.

ID	df	temp. limits*	15-Meter cat.#	30-Meter cat.#	60-Meter cat.#
0.25 mm	0.10 µm	-20 to 280 °C			12011
	0.25 µm	-20 to 280 °C	12020	12023	12026
	0.50 µm	-20 to 270/280 °C	12035	12038	12041
	1.00 µm	-20 to 260/280 °C	12050	12053	12056
0.32 mm	0.10 µm	-20 to 280 °C		12009	
	0.25 µm	-20 to 280 °C	12021	12024	12027
	0.50 µm	-20 to 270/280 °C	12036	12039	12042
	1.00 µm	-20 to 260/280 °C	12051	12054	12057
	1.50 µm	-20 to 240/260 °C	12066	12069	12072
0.53 mm	0.25 µm	-20 to 270/280 °C		12025	
	0.50 µm	-20 to 260/270 °C	12037	12040	
	1.00 µm	-20 to 250/270 °C	12052	12055	12058
	1.50 µm	-20 to 240/260 °C	12067	12070	12073
	3.00 µm	-20 to 230/250 °C	12082	12085	12088

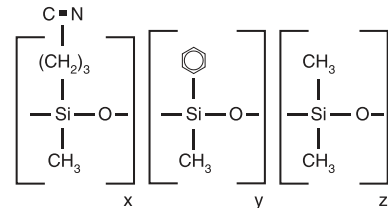
ID	df	temp. limits	10-Meter cat.#	20-Meter cat.#	40-Meter cat.#
0.18 mm	0.20 µm	-20 to 280 °C	42001	42002	42003
	0.40 µm	-20 to 280 °C		42011	42012

\*Maximum temperatures listed are for shorter length columns. Longer columns may have a different maximum temperature.

### Rtx®-1701 with Integra-Guard® Columns

Description	qty.	cat.#
30 m, 0.25 mm ID, 0.25 µm Rtx-1701 w/5 m Integra-Guard Column	ea.	12023-124

### Rtx®-1701 Structure



Similar to: (14%-cyanopropylphenyl)-methylpolysiloxane

### similar phases

DB-1701P, DB-1701, CP-Sil 19 CB, VF-1701ms, VF-1701 Pesticides, ZB-1701, ZB-1701P

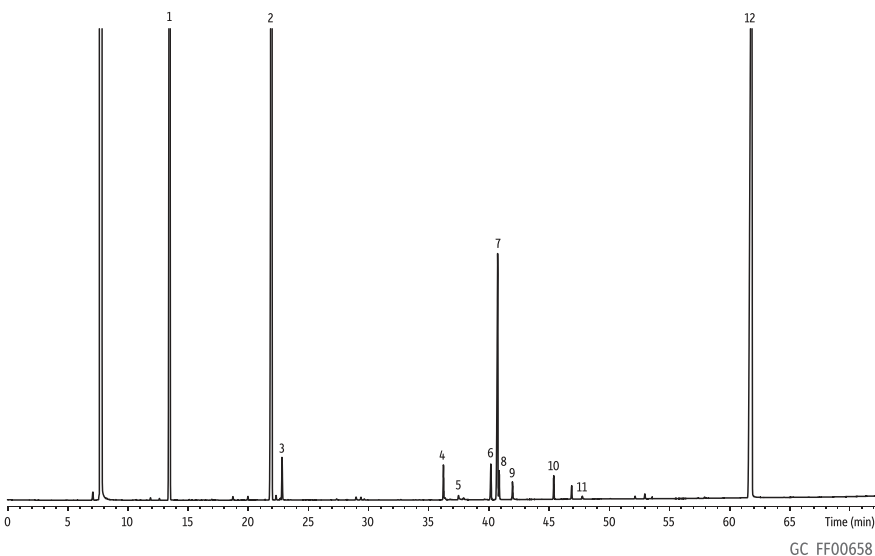
### also available Metal MXT® Columns

Rugged, flexible, Siltek®-treated stainless steel tubing; inertness comparable to fused silica tubing.

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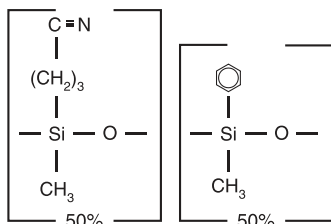
### 5% Fragrance Materials Association Mix on Rtx®-1701



Peaks	Conc. (wt.%)
1. Ethyl butyrate	35.7
2. Limonene	20.0
3. Eucalyptol	0.5
4. Geraniol	0.6
5. Benzoic acid	1.0
6. Cinnamic aldehyde	0.5
7. Hydroxycitronellal	5.0
8. Thymol	0.3
9. Cinnamyl alcohol	0.3
10. Cinnamyl acetate	0.3
11. Vanillin	0.1
12. Benzyl salicylate	35.7

<b>Column</b>	Rtx®-1701, 60 m, 0.25 mm ID, 0.25 µm (cat.# 12026)
<b>Sample</b>	Fragrance materials test mix (cat.# 31807)
<b>Conc.:</b>	5% FMA mix in acetone
<b>Injection</b>	
<b>Inj. Vol.:</b>	1 µL split (split ratio 40:1)
<b>Liner:</b>	Splitless (4 mm ID) (cat.# 20814)
<b>Inj. Temp.:</b>	285 °C
<b>Oven</b>	
<b>Oven Temp.:</b>	50 °C to 270 °C at 3 °C/min
<b>Carrier Gas</b>	He, constant flow
<b>Flow Rate:</b>	0.6 mL/min
<b>Detector</b>	FID @ 300 °C

**Rtx®-225 Structure**



Similar to: (50%-cyanopropylmethyl)-methylphenylpolysiloxane

**similar phases**

DB-225ms, CP-Sil 43 CB

**Rtx®-225 Columns** (fused silica)

(polar phase; Crossbond® cyanopropylmethyl phenylmethyl polysiloxane)

- General-purpose columns for FAMES, carbohydrates, sterols, flavor compounds.
- Temperature range: 40 °C to 240 °C.
- Equivalent to USP G7, G19 phases.

The cyanopropyl-containing Rtx®-225 phase is slightly less polar than bonded polyethylene glycol (PEG) phases, but it can be used for many of the same applications.

Improvements to the Rtx®-225 polymer have increased thermal stability, reduced bleed, and improved inertness. The Rtx®-225 column provides a 20 °C thermal stability advantage over other “225” columns because of our unique polymer synthesis technology and proprietary siloxane deactivation. In most similar columns, the Carbowax® deactivation layer is not fully compatible with the cyanopropyl siloxane polymer, which can cause adsorption, tailing of active compounds, and lower efficiency.

ID	df	temp. limits*	15-Meter cat.#	30-Meter cat.#	60-Meter cat.#
0.25 mm	0.25 µm	40 to 220/240 °C	14020	14023	14026
	0.50 µm	40 to 220/240 °C		14038	
0.32 mm	0.25 µm	40 to 220/240 °C	14021	14024	
	0.50 µm	40 to 220/240 °C		14039	
	1.00 µm	40 to 200/220 °C	14051	14054	14057
0.53 mm	0.25 µm	40 to 200/220 °C	14022	14025	
	0.50 µm	40 to 200/220 °C		14040	
	1.00 µm	40 to 200/220 °C	14052	14055	

\*Maximum temperatures listed are for shorter length columns. Longer columns may have a different maximum temperature.



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