



Stabilwax / MXT-WAX

□ Stabilwax / MXT-WAX

- Resists oxidation and thermal breakdown.
- Ideal for the analysis of solvents, FAMES, xylene isomers, and flavor compounds.
- 100% bonded Polyethylene Glycol stationary phase.
- Polarity identical to Supelcowax-10, Omegawax, HP-Innowax.
- Polarity very similar to DR-WAX and HP-Wax.
- Crossbond'~ for reduced bleed, increased column lifetime. and solvent rinsability.

The use of sensitive detectors. such as ECDs. is not recommended with any PEG bonded phase because the oxygenated bleed fragmentation amplifies basehne rise.

Restek's research chemists developed a polar-deactivated surface that binds the Carbowax® polymer tightly and increases the polymer's thermal stability over competitive columns. Then they looked at incorporating antioxidant features into the polymer backbone that resist damage from an influx of trace oxygen. the most common cause of Carbowax® column failure. Finally. they fine-tuned the bonding mechanisms to result in a column that can be rejuvenated by solvent-washing. even if water is used.

Unlike silicone stationary phases. PEGs have the unique ability to resist damage from strongly acidic or basic volatile compounds. Inorganic acids and volatile inorganic bases usually will not damage the phase. Stabilwax' and MXT®-WAX, like most PEG columns, have a minimum operating temperature of 40°C.

Rtx-Stabilwax (Fused Silica)

Crossbond® 65% diphenyl 35% dimethylpolysiloxane) Stable to 320C.

ID	df(um)	temp. limits	15-Meter	30-Meter	60-Meter
0.25mm	0.10	40 to 250/260°C	10605	10608	10611
	0.25	40 to 250/260°C	10620	10623	10626
	0.50	40 to 250/260°C	10635	10638	10641
0.32mm	0.10	40 to 250/260°C	10606	10609	10612
	0.25	40 to 250/260°C	10621	10624	10627
	0.50	40 to 250/260°C	10636	10639	10642
	1.00	40 to 240/250°C	10651	10654	10657
0.53mm	0.10	40 to 250/260°C	10607	10610	10613
	0.25	40 to 250/260°C	10622	10625	10628
	0.50	40 to 250/260°C	10637	10640	10643
	1.00	40 to 240~250°C	10652	10655	10658
	1.50	40 to 230/240°C	10666	10669	10672
	2.00	40 to 220/230°C	10667	10670	

Applications:

FAMES, flavors, acids, essential oils, amines, solvents, xylene isomers, BTEX, EPA Method 603

MXT-WAX (Silcosteel)

Crossbond Carbowax - provides oxidation resistance) Stable to 250C

0.25mm	0.25	40 to 250°C	70621	70624	70627
	0.50	40 to 250°C	70636	70639	70642
	1.00	40 to 240°C	70651	70654	70657
0.53mm	0.25	40 to 250°C	70622	70625	70628
	0.50	40 to 250°C	70637	70640	70643
	1.00	40 to 240°C	70652	70655	70658
	1.50	40 to 230°C	70666	70669	70672
	2.00	40 to 220°C	70667	70670	

Restek's
MXT®
columns
rugged, flexible
fused-silica-
lined, stainless



Rtx-Wax / FAMEWAX

NEW!

□ Rtx-Wax / FAMEWAX

- 20°C minimum operating temperature.
- Thermally stable with guaranteed low bleed to 250°C.
- Fast and efficient for BTEX analysis.
- Excellent efficiency and inertness for analysis of aldehydes.

Applications:
essential oils, FAMES.
polar solvents.

Restek's Rtx-Wax columns are made with a new Crossbond polyethylene glycol (PEG) stationary phase. This new innovation in polymer technology has produced the most inert and efficient PEG columns currently available. The extended operating temperature range allows the analysis of compounds with a wide volatility range, while the Crossbond technology ensures low bleed at temperatures as high as 250°C. The selectivity of the Rtx-Wax is comparable to other Carbowax columns*, yielding excellent resolution of compounds ranging from intermediate to high polarity. This exceptional inertness and efficiency allows versatility in difficult analyses

Rtx-Wax (Fused Silica)

(Crossbond polyethylene glycol)
Stable to 250°C

ID	df(um)	temp. limits	15-Meter	30-Meter	60-Meter
0.25mm	0.10	20 to 250°C	12405	12408	
	0.25	20 to 250°C	12420	12423	12426
	0.50	20 to 250°C	12435	12438	12441
0.32mm	0.10	20 to 250°C	12406	12409	
	0.25	20 to 250°C	12421	12424	12427
	0.50	20 to 250°C	12436	12439	12442
0.53mm	1.00	20 to 240/250°C	12451	12454	12457
	0.25	20 to 250°C	12422	12425	
	0.50	20 to 250°C	12437	12440	12443
0.10mm	1.00	20 to 240/250°C	12152	12455	12458
ID	df(um)	temp. limits	15-Meter	30-Meter	60-Meter
0.10mm	0.10	20 to 250°C	41601	41602	
	0.40	20 to 240/250°C	41602	41604	

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

NEW!

□ FAMEWAX (Fused Silica)

(Crossbond polyethylene glycol)
Stable to 250°C

ID	df(um)	temp. limits	30-Meter
0.25	0.25	20 to 250°C	12497
0.50	0.25	20 to 250°C	12498
1.00	0.50	20 to 250°C	12499

□ FAMEWAX

New polyethylene glycol columns provide superb stationary phase consistency, excellent column efficiency and thermal stability to 250°C. The elution order of complex polyunsaturated fatty acid methyl esters is comparable to that on other Carbowax columns, but baseline resolution is achieved in significantly less time.

Restek
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Distributors

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Stabilwax-DA

□ Stabilwax-DA

- Ideal for the analysis of free acids (no need for derivitization).
- High thermal stability (250C) and long column lifetime.
- Crossbond stationary phase results in reduced bleed, increased column lifetime, and solvent rinsability.
- Resists oxidation and thermal breakdown.
- 100% bonded polyethylene glycol stationary phase.
- Similar polarity to DB-FFAP. OV-35 I, NUKOL. and HP-FFAP columns.

CROSSBOND®

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

The analysis of volatile free acids has been difficult on the common siloxane stationary phases due to adsorption and low sample capacity. Although polyethylene glycol (PEG) stationary phases exhibit improved capacity and better selectivity for many free acids, peak tailing can often occur. Stabilwax®-DA is a bonded polyethylene glycol stationary phase that has been specifically deactivated to allow the analysis of acidic compounds without derivitization. This deactivation significantly reduces adsorption and increases sample capacity of volatile-free acids. Restek's polymer deactivation mechanisms are significantly different than those used by our competitors. Many of our competitors utilize materials that hydrate at elevated temperatures, resulting in a loss of acidity and peak tailing. Restek's proprietary technology produces columns that last longer and give better peak shapes with high molecular weight acids than our competitors.

Applications:

underivatized free fatty acids

Stabilwax®-DA allows free acids to be analyzed from C1 to C20 without derivitization. Inorganic acids chromatograph well on Stabilwax-DA. The only limitation is the ability to volatilize the acidic compound. Stabilwax~DA is a bonded stationary phase that allows for longer column lifetime. solvent rinsability. and lower bleed. Its polarity is equivalent to most common FFAP phases.

Stabilwax (Fused Silica)

(Crossbond® Crabowax for acidic compounds) Stable to 250C.

ID	df(um)	temp. limits	15-Meter	30-Meter	60-Meter
O.25iiiiii	0.10	4) t~ 25U,~fIU ~	11005	11008	11011
	0.25	40 to 250/260°C	11020	11023	11026
	0.50	40 to 250/260°C	11035	11038	11041
0.32mm	0.10	40 to 250/260°C	11006	11009	11012
	0.25	40 to 250/260°C	11021	11024	11027
	0.50	40 to 250/260°C	11036	11039	11042
	1.0	40 to 240/250°C	11051	11054	11057
0.53mm	0.10	40 to 250/260°C	11007	11010	11013
	0.25	40 to 250/260°C	11022	11025	11028
	0.50	40 to 250/260°C	1 1037	11040	11043
	1.00	40 to 240/250°C	11052	11055	11058
	1.50	40 to 230/240°C	11062	11065	11068



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Stabilwax-DB

CROSSBOND®

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

Applications: amines

□ Stabilwax-DB

- Excellent for the analysis of basic compounds.
- Eliminates the need for derivitization.
- Crossbond~ stationary phase results in reduced bleed, increased column lifetime, and solvent rinsability.
- No column priming required.
- Bonded phase reduces bleed and increases column lifetime.
- Polarity similar to CAM, Carbowax-Amine, and CP Wax 51

The reproducible analysis of basic compounds by capillary gas chromatography has always been difficult. The presence of silanol groups (SIOH) on the inside walls of the tubing results in an acidic surface causing an inherent acidity. When basic compounds, such as amines are analyzed on the acidic surface, they are adsorbed due to acid/base interactions.

The Stabilwax-DB column was specially developed to reduce adsorption and improve response of basic compounds without the need for column priming. Analyses that previously required derivatization or another analytical technique such as HPLC can now be performed on the Stabilwax-DB column. In addition to the stringent Crob test for efficiency, bleed, and inertness (excluding oxygenated compounds), the Stabilwax®-DB must also pass a test with a mixture that includes triamine, diamine, and propylamine. This additional test ensures that every Stabilwax®-DB column is basic enough to analyze these difficult amine compounds.

The Stabilwax-DB can be used to analyze a wide variety of basic compounds such as alkylamines, diamines, triamines, and nitro-containing heterocycles. Use the Rtx®-5 Amine for oxygenated compounds since Stabilwax®-DB shows some adsorption at low ppm levels.

Although this stationary phase is bonded, avoid rinsing with water or alcohols. Stabilwax®-DB columns are similar in polarity to CAM columns and have a maximum thermal stability of 220°C.

Stabilwax-DB (Fused Silica)

(Crossbond Carbowax for amines and basic compounds) Stable to 220°C

ID	df(um)	temp. limits	15-Meter	30-Meter	60-Meter
0.25mm	0.25	40 to 210/220°C	10820	10823	
	0.50	40 to 210/220°C		10838	
0.32mm	0.25	40 to 210/220°C	10821	10824	
	0.50	40 to 210/220°C		10839	
	1.00	40 to 210/220°C		10854	10857
0.53mm	0.50	40 to 210/220°C		10840	
	1.00	40 to 210/220°C	10852	10855	10858
	1.50	40 to 210/220°C		10869	



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