

Elite-5

The Elite-5 is a 5% diphenyl/95% dimethyl polysiloxane stationary phase. It is regarded as a general purpose, low polarity phase that is the most popular GC stationary phase used for a wide variety of applications. A crosslinked phase in which all residual catalysts and low molecular weight fragments have been removed providing a tight mono-modal distribution and extremely low bleed.

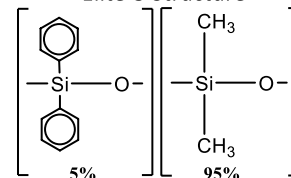
Features

- Temperature Range: -60 °C to 350 °C
- Equivalent to USP G27 and G36 phases

Applications

- Drugs, pesticides and solvent impurities
- Hydrocarbons and PCBs
- Essential oils and semivolatiles

Elite-5 Structure

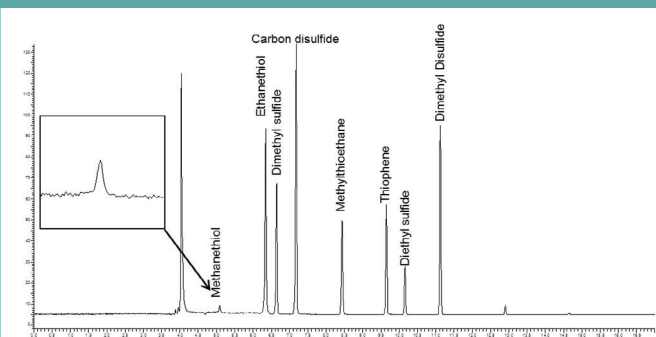


ID (mm)	df (μm)	Temp Limits (°C)	10 m Part No.	15 m Part No.	20 m Part No.	30 m Part No.	50 m Part No.	60 m Part No.
0.05	0.05	-60 to 325/350	N9316104					
	0.20	-60 to 325/350	N9316105					
0.10	0.10	-60 to 330/350			N9316108			
	0.40	-60 to 320/340			N9316109			
0.18	0.18	-60 to 330/350	N9316066		N9316068			
	0.4	-60 to 320/340	N9316067		N9316069		N9316071²	
0.20	0.33	-60 to 330/350	N9316110¹		N9316111¹		N9316112	
0.25	0.10	-60 to 330/350		N9316072		N9316075		N9316078
	0.25	-60 to 330/350		N9316073		N9316076		N9316079
	0.50	-60 to 330/350					N6107815	
	1.00	-60 to 320/340		N9316074		N9316077		N9316080
0.32	NEW 0.10	-60 to 330/350		N9316081		N9316085		N9316089
	0.25	-60 to 330/350		N9316082		N9316086		N9316090
	1.00	-60 to 320/340		N9316083		N9316087		N9316091
0.45	0.13	-60 to 340/350						N9316097
	0.42	-60 to 310/330		N9316093		N9316096		
	1.27	-60 to 310/330		N9316092		N9316094		
	4.25	-60 to 260/280				N9316095		
0.53	0.50	-60 to 310/330		N9316099		N9316102		
	1.50	-60 to 310/330		N9316098		N9316100		N9316103
	5.00	-60 to 270/290				N9316101		

¹ The lengths of **N9316110** and **N9316111** are 12 m and 25 m respectively. ² **N9316071** use 40 m length column.

Industrial

Determination of sulfur compounds in air by online TD-GC/FPD.



Recommended Column: Elite-5, 60 m x 0.32 mm x 0.25 mm, Part No. **N9316090**

Elite-17

The Elite-17 columns are general purpose, mid-polarity, (50%-phenyl)-methylpolysiloxane phases and incorporates a crosslinking technology for very low bleed and long column lifetimes.

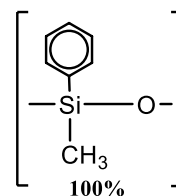
Features

- Temperature Range: 40 °C to 330 °C
- Equivalent to USP G3 phase

Applications

- Herbicides and pesticides
- Phthalate esters, sterols and rosin acids

Elite-17 Structure



ID (mm)	df (μm)	Temp Limits (°C)	5 m Part No.	10 m Part No.	15 m Part No.	20 m Part No.	30 m Part No.	60 m Part No.
0.05	0.05	40 to 280/300		N9316138				
	0.10	40 to 280/300		N9316139				
0.10	0.02	40 to 280/300		N9316141				
	0.10	40 to 280/300		N9316140		N9316142		
	0.20	40 to 280/300				N9316143		
0.18	0.18	40 to 310/330		N9316113		N9316115		
	0.3	40 to 300/320		N9316114		N9316116		
0.25	0.15	40 to 300/320			N9316117		N9316120	
	0.25	40 to 300/320			N9316118		N9316121	N9316123
	0.50	40 to 290/310			N9316119		N9316122	
0.32	0.15	40 to 300/320			N9316124		N9316127	
	0.25	40 to 300/320			N9316125		N9316128	
	0.50	40 to 290/310			N9316126		N9316129	
0.45	0.85	40 to 270/290			N9316131		N9316132	N9316133
0.53	1.00	40 to 260/280			N9316135		N9316136	N9316137
	2.00	40 to 250/270	N9316134					



Elite-35

The Elite-35 columns are general purpose, mid-polarity columns that are coated with a crosslinked, (35%-diphenyl)-dimethylpolysiloxane commonly used for organochlorine pesticides, PDB congeners. It is a popular confirmation column for pesticides and herbicides, in conjunction with an Elite-5 or Elite-1701. The higher phenyl content results in useful elution order and retention time changes.

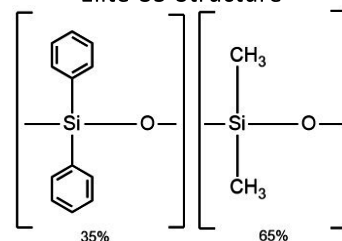
Features

- Temperature Range: 40 °C to 300/320 °C
- Equivalent to USP G42 phase

Applications

- Pesticides and herbicides
- Pharmaceuticals, sterols, rosin acids and phthalate esters

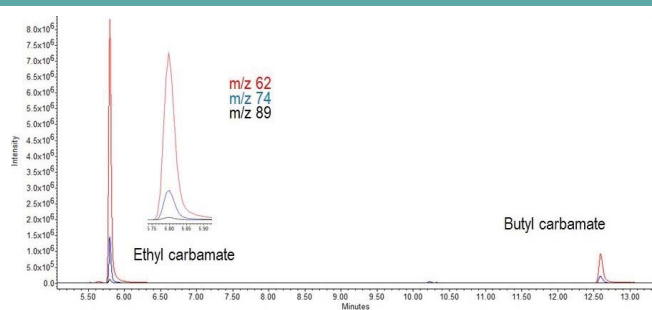
Elite-35 Structure



ID (mm)	df (μm)	Temp Limits (°C)	15 m Part No.	30 m Part No.
0.25	0.15	40 to 300/320		N9316144
	0.25	40 to 300/320		N9316145
0.32	0.25	40 to 300/320		N9316146
	0.50	40 to 290/310		N9316147
0.45	0.42	40 to 290/310		N9316150
	0.85	40 to 280/300	N9316148	N9316149
0.53	0.50	40 to 260/280	N9303929	N9316153
	1.00	40 to 260/280	N9316151	N9316152

Food and Flavor

Analysis of ethyl carbamate using GC/MS.



Recommended Column: Elite-35, 30 m x 0.25 mm x 0.25 μm
(Part No. **N9316145**)

Liner: 2 mm ID glass (no glass wool)

Elite-200

Elite-200 columns are comprised of a (trifluoropropyl)-methylpolysiloxane stationary phase that has a unique selectivity which changes elution orders and resolves compounds that phenyl, cyano, or Carbowax® phase cannot. These columns have accomplished many difficult separations not possible on any other bonded stationary phase. It offers exceptional thermal stability, low bleed, and superior inertness – even for active compounds such as phenols, and with sensitive detectors such as ECDs, NPDs, and MSDs. It is often used for the confirmation of phenols, nitrosamines, organochlorine pesticides, chlorinated hydrocarbons, and chlorophenoxy herbicides when paired with an Elite-5 column.

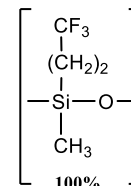
Features

- Temperature Range: 40 °C to 320/340 °C
- Equivalent to USP G6 phase

Applications

- Solvents, fluorocarbons, ketones and phenols
- Alcohols and drugs of abuse
- Chlorinated herbicides and pesticides

Elite-200 Structure



ID (mm)	df (μm)	Temp Limits (°C)	15 m Part No.	30 m Part No.	60 m Part No.
0.25	0.10	-20 to 320/340	N9316616	N9316617	
	0.25	-20 to 320/340	N9316618	N9316619	
	0.50	-20 to 310/330	N9316620	N9316621	
	1.00	-20 to 290/310	N9316622	N9316623	N9316624
0.32	0.25	-20 to 320/340	N9316625	N9316626	
	0.50	-20 to 310/330	N9316627	N9316628	
	1.00	-20 to 290/310	N9316629	N9316630	N9316631
	1.50	-20 to 280/300	N9316632	N9316633	N9316634
0.53	0.25	-20 to 310/330	N9316635	N9316636	N9316637
	0.50	-20 to 300/320	N9316638	N9316639	N9316640
	1.00	-20 to 290/310	N9316641	N9316642	N9316643
	1.50	-20 to 280/300	N9316644	N9316645	N9316646
	3.00	-20 to 260/280	N9316647	N9316648	N9316649

Elite-225

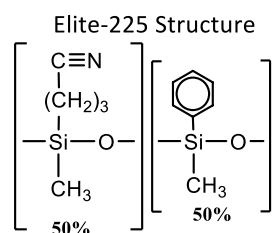
The Elite-225 is a general purpose column for the analysis of FAMES, carbohydrates, sterols and flavor compounds. The cyanopropyl-containing Elite-225 phase is slightly less polar than bonded polyethylene glycol (PEG) phases, but it can be used for many of the same applications. Improvements to the Elite-225 polymer have increased thermal stability, reduced bleed, and improved inertness. In other similar columns, the Carbowax® deactivation layer is not fully compatible with the cyanopropyl siloxane polymer, which can cause tailing of active compounds, and lower efficiency.

Features

- Temperature Range: 40 °C to 220/240 °C
- Equivalent to USP G7, G19 phases

Applications

- FAMES and carbohydrates
- Sterols and flavor compounds



ID (mm)	df (μm)	Temp Limits (°C)	10 m Part No.	15 m Part No.	20 m Part No.	30 m Part No.	60 m Part No.
0.05	0.05	45 to 220/240	N9316186				
0.10	0.10	45 to 220/240			N9316187		
0.18	0.2	45 to 220/240	N9316172		N9316173		
0.25	0.15	45 to 220/240		N9316174		N9316176	N9305631
	0.25	45 to 220/240		N9316175		N9316177	
0.32	0.15	45 to 220/240		N9316178		N9316180	
	0.25	45 to 220/240		N9316179		N9316181	
0.45	0.85	40 to 200/220		N9316182		N9316183	
0.53	1.00	40 to 200/220		N9316184		N9316185	

Elite-624

The Elite-624 column is a specially engineered, low to mid-polarity (6%-cyanopropylphenyl)-dimethylpolysiloxane phase. The unique polarity of this phase makes it ideal for analyzing volatile organic pollutants and it is recommended in U.S. EPA methods. The Elite-624 phase produces greater than 90% resolution of the first six gases in EPA Methods 8260 and 524.2. This stationary phase is especially well-suited for EPA Method 524.2 since it resolves 2-nitropropane from 1,1-dichloropropanone, which share quantification ion m/z 43 and must be separated chromatographically.

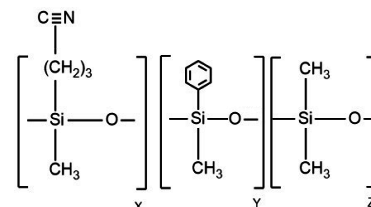
Features

- Temperature Range: -20 °C to 240 °C
- Equivalent to USP G43 phase

Applications

- Volatile organic pollutants
- EPA methods 524.2 and 8260

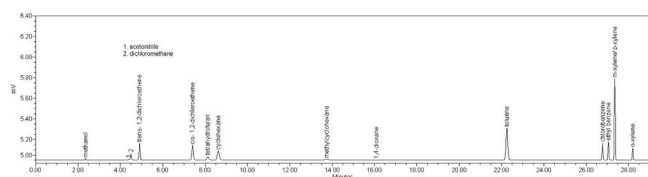
Elite-624 Structure



ID (mm)	df (μm)	Temp Limits (°C)	20 m Part No.	25 m Part No.	30 m Part No.	60 m Part No.	75 m Part No.
0.18	1.00	-20 to 240	N9316200				
0.20	1.12	-20 to 240		N9316209			
0.25	1.40	-20 to 240			N9316201	N9316202	
0.32	1.80	-20 to 240			N9316203	N9316204	
0.45	2.55	-20 to 240			N9316205		N9316206
0.53	3.00	-20 to 240			N9316207	N9305699	N9316208

Pharma

Residual solvents in pharmaceuticals by USP 467.

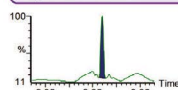


Elite-624, 30 m x 0.32 mm x 1.8 μm, Part No. **N9316203**

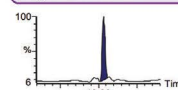
Environmental

Analysis of Volatile Organic Compounds (VOCs) in air using US EPA Method TO-17.

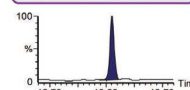
Vinyl Chloride 0.05 μg/m³
Single to noise: 255:1



Chloroform 0.05 μg/m³
Single to noise: 250:1



Benzene 0.05 μg/m³
Single to noise: 450:1



Trichloroethylene 0.05 μg/m³
Single to noise: 670:1



Tetrachloroethylene 0.05 μg/m³
Single to noise: 600:1



Naphthalene 0.05 μg/m³
Single to noise: 710:1



Recommended Column: Elite-624, 60 m x 0.25 mm x 1.4 μm, Part No. **N9316006**

Elite-1301

The Elite-1301 column is a general purpose low to mid-polarity phase commonly used for the analysis of residual solvents, alcohols, oxygenates and volatile organic compounds. Our polymer is fully characterized to ensure long-term reproducibility, column-to-column consistency, and low bleed – even with sensitive detectors such as ECD and MS.

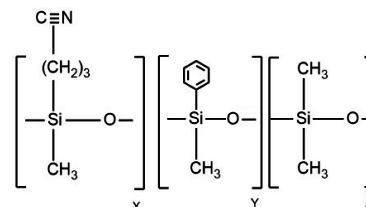
Features

- Temperature Range: -20 °C to 280 °C
- Equivalent to USP G43 phase

Applications

- Residual solvents, alcohols
- Oxygenates, VOCs

Elite-1301 Structure



ID (mm)	df (μm)	Temp Limits (°C)	10 m Part No.	15 m Part No.	20 m Part No.	30 m Part No.	60 m Part No.
0.18	0.40	-20 to 280	N9316210		N9316211		
0.25	0.25	-20 to 280		N9316212		N9316214	N9316216
	1.00	-20 to 260/280				N9316215	N9316217
0.32	0.25	-20 to 280		N9316218		N9316220	N9316222
	1.00	-20 to 260/280		N9316219		N9316221	N9316223
0.45	0.85	-20 to 260/280		N9316224		N9316225	
0.53	1.00	-20 to 260/280		N9316226		N9316227	

Elite-1701

The Elite-1701 has a stationary phase of (14%-cyanopropylphenyl)-methylpolysiloxane. It is regarded as a good general purpose column for the analysis of alcohols, oxygenates, and pesticides. The mix of cyano and phenyl functional groups increases the polarity and offers a different elution order relative to less polar Elite-1 or Elite-5 columns. An Elite-1701 column is ideal for confirmation analysis in combination with an Elite-35 or Elite-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 ECD and MS.

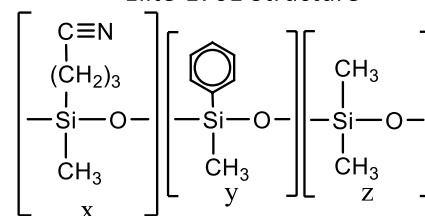
Features

- Temperature Range: -20 °C to 280 °C
- Equivalent to USP G46 phase

Applications

- Alcohols, oxygenates
- PCB congeners, pesticides

Elite-1701 Structure



ID (mm)	df (μm)	Temp Limits (°C)	10 m Part No.	15 m Part No.	20 m Part No.	30 m Part No.	50 m Part No.	60 m Part No.
0.05	0.05	-20 to 280	N9316257					
	0.20	-20 to 280	N9316258					
0.10	0.10	-20 to 280	N9316259					
0.18	0.4	-20 to 270/280	N9316228		N9316229			
0.25	0.15	-20 to 280	N9316230					N9316236
	0.25	-20 to 280	N9316231		N9316234		N9316237	
	1.00	-20 to 260/280	N9316232		N9316235		N9316238	
0.32	0.15	-20 to 280	N9316239		N9316242		N9316246	
	0.25	-20 to 280	N9316240		N9316243		N9316247	
	1.00	-20 to 260/280	N9326141		N9316244		N9316245	N9316248
0.45	0.42	-20 to 260/270	N9316250		N9316252			
	0.85	-20 to 250/270	N9316249		N9316251			
0.53	0.50	-20 to 260/270	N9316254		N9316256			
	1.00	-20 to 250/270	N9316253		N9316255			

Elite-WAX

The Elite-WAX column, a Polar Polyethylene Glycol (PEG) stationary phase column, is a general purpose polar PEG phase commonly used for the analysis of polar compounds like alkenols, glycols and aldehydes. The operating temperature range up to 250 °C facilitates the analysis of compounds that have a wide volatility range. Selectivity of the Elite-WAX is comparable to other Carbowax® columns for compounds of intermediate to high polarity.

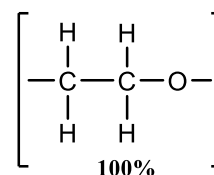
Features

- Temperature Range: 20 °C to 250 °C
- Equivalent to USP G14, G15, G16, G20 and G39 phases

Applications

- FAMES, Glycols
- Alkenols, aldehydes, solvents

Elite-WAX Structure



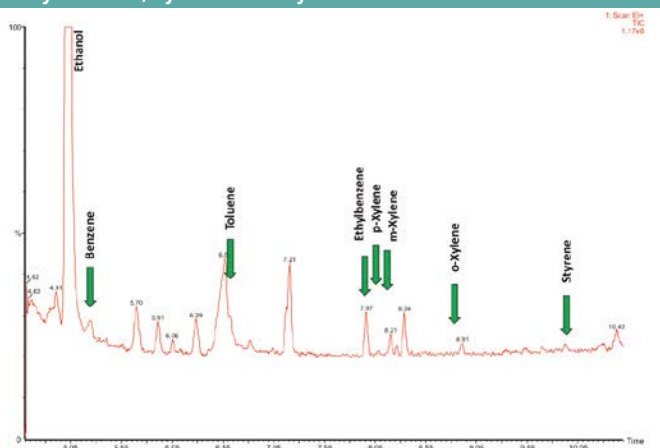
ID (mm)	df (μm)	Temp Limits (°C)	15 m Part No.	30 m Part No.	60 m Part No.
0.25	0.15	20 to 250	N9316399		N9316405
	0.25	20 to 250	N9316400	N9316403	N9316406
	0.50	20 to 250	N9316401	N9316404	N9316407
0.32	0.15	20 to 250	N9316408	N9316411	
	0.25	20 to 250	N9316409	N9316412	N9316416
	0.50	20 to 250	N9316410	N9316413	N9316417
0.45	0.42	20 to 250	N9316420	N9316422	
	0.85	20 to 240/250	N9316419	N9316421	N9316423
	1.70	50 to 230	N9316418		
0.53	0.50	20 to 250	N9316426	N9316428	
	1.00	20 to 240/250	N9316425	N9316427	N9316429

Elite-MWAX: Metal Column

ID (mm)	df (μm)	Temp Limits (°C)	30 m Part No.
0.53	1.00	20 to 240/250	N9316478

Food and Flavor

The determination of low levels of benzene, toluene, ethylbenzene, xylenes and styrene in olive oil.



Recommended Column: Elite-WAX, 30 m x 0.25 mm x 1.0 μm (Part No. N9316485)

Elite-WAX ETR

The Elite-WAX ETR (Extended Temperature Range) columns are manufactured with a special bonding process that binds the Carbowax® polymer to the polar deactivated silica. This results in a low bleed WAX column that exhibits extended lifetimes even when repeatedly heated to 250 °C. The bonding mechanism makes this column rugged enough to stand up to repeated water injections and allows solvent washing to rejuvenate the column. The Elite-WAX ETR has a wide applicability including FAMES, flavor compounds, acrolein/ acrylonitrile (EPA 603), oxygenated compounds, and impurities in water matrices.

Features

- Temperature Range: 40 °C to 250 °C
- Equivalent to USP G14, G15, G16, G20 and G39 phases

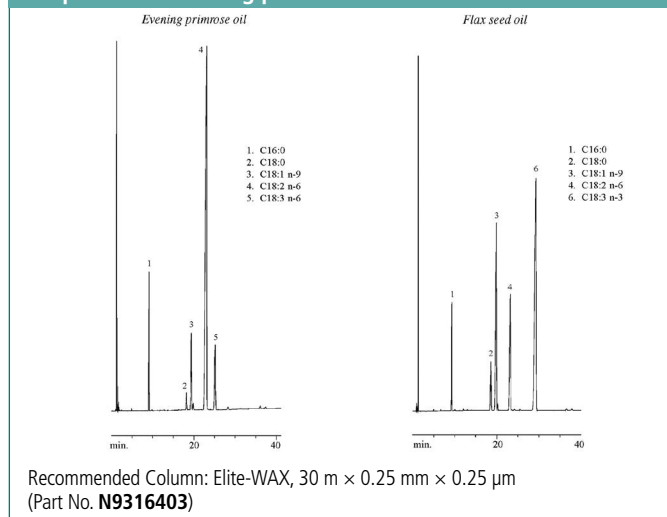
Applications

- FAMES, flavor compounds, essential oils
- Solvents, aromatics, alcoholic beverages
- EPA method 603

ID (mm)	df (μm)	Temp Limits (°C)	5 m Part No.	15 m Part No.	30 m Part No.	50 m Part No.	60 m Part No.
0.25	0.25	40 to 250		N9316547	N9316549		N9316551
	0.50	40 to 250		N9316548	N9316550		
0.32	0.25	40 to 250		N9316552	N9316555		N9316559
	0.50	40 to 250		N9316553	N9316556		N9316560
	1.00	40 to 240/250		N9316554	N9316557	N9316558	N9316561
0.45	0.85	40 to 250		N9316563	N9316564		N9316565
	1.70	40 to 230/250	N9316562				
0.53	1.00	40 to 240/250		N9316567	N9316569		N9316571
	2.00	40 to 220/250	N9316566	N9316568	N9316570		

Food and Flavor

Determination of omega-3 (n-3) and omega-6 (n-6) fatty acid composition in evening primrose oil and flax seed oil.



GC Columns for GC/MS

The Elite range of MS columns are engineered for extremely low bleed for MS detectors, providing optimum sensitivity. They cover a wide range of polarities and applications.

Elite-1ms

The Elite-1ms phase is a non-polar phase, (crosslinked dimethyl polysiloxane) designed to be robust for MS applications. With improved thermal stability and ultra low bleed provides increased sensitivity. It is regarded as a good general-purpose columns for arson accelerants, essential oils, hydrocarbons, pesticides, PCB congeners (e.g., Aroclor mixes), sulfur compounds, amines and solvent impurities.

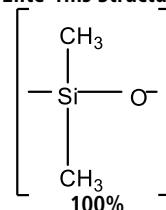
Features

- Temperature range: -60 °C to 330/350 °C.
- Equivalent to USP G1, G2, and G38 phases

Applications

- Ideal for analysis of non polar petrochemical samples
- Also excellent for solvents, chemicals, flavors & fragrances, air toxins and pesticides

Elite-1ms Structure



ID (mm)	df (μm)	Temp Limits (°C)	15 m Part No.	20 m Part No.	30 m Part No.	60 m Part No.
0.18	0.18	-60 to 330/350		N9305635		
	2.00	-60 to 330/350		N9305636		
0.25	0.25	-60 to 330/350	N9305637		N9305638	N9305639
	0.50	-60 to 330/350	N9305640		N9305641	N9305642
	1.00	-60 to 330/350	N9305643		N9305644	N9305645
0.32	0.25	-60 to 330/350	N9305646		N9305647	N9305648
	0.50	-60 to 330/350	N9305649		N9305650	N9305651
	1.00	-60 to 330/350			N9305652	N9305653
	4.00	-60 to 330/350			N9305654	

Elite-5ms

The Elite-5ms phase incorporates a phenyl group in the polymer backbone to improve thermal stability, reduce bleed and make the phase less prone to oxidation. This results in a phase that is inert to active compounds with extremely low bleed to meet the requirements of sensitive MS detectors. It is a general purpose column ideal for GC/MS analysis of semivolatiles, PAHs, chlorinated hydrocarbons, phthalates, phenols, amines, organochlorine and organophosphorus pesticides, drugs and solvent impurities.

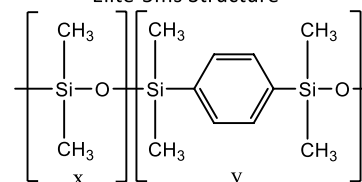
Features

- Temperature Range: -60 °C to 350 °C
- Similar to USP G27 and G36 phases

Applications

- Drugs, pesticides and solvent impurities
- Hydrocarbons and PCBs
- Essential oils and semivolatiles

Elite-5ms Structure



ID (mm)	df (μm)	Temp Limits (°C)	15 m Part No.	30 m Part No.	60 m Part No.
0.18	0.18	-60 to 325/340		N9316276 ¹	N9316277 ¹
0.20	0.33	-60 to 330/350	N9316301 ²	N9316302 ²	N9316303 ²
0.25	0.25	-60 to 330/350	N9316279	N9316282	N9316286
	0.50	-60 to 330/350		N9316284	
	1.00	-60 to 325/350	N9316280	N9316283	N9316287
0.32	0.25	-60 to 330/350	N9316289	N9316293	N9316297
	0.50	-60 to 330/350		N9316295	
	0.52	-60 to 330/350		N9316291 ³	
	1.00	-60 to 325/350	N9316290	N9316294	N9316298
0.53	1.50	-60 to 310/330	N9316299	N9316300	

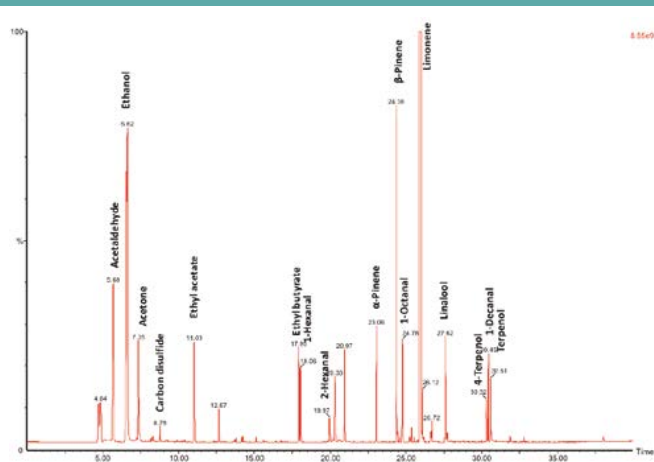
¹ The lengths of **N9316276** and **N9316277** are 20 m and 40 m, respectively.

² The lengths of **N9316301**, **N9316302** and **N9316303** are 12 m, 25 m and 50 m, respectively.

³ The length of **N9316291** is 25 m.

Food and Flavor

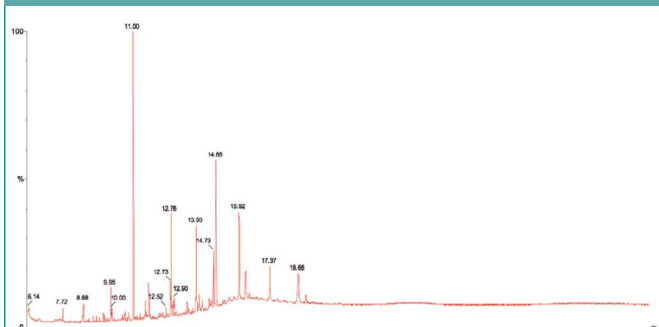
The qualitative characterization of fruit juice flavor using a TurboMatrix Hs Trap and a Clarus SQ 8 GC/MS.



Recommended Column: Elite-5ms, 60 m x 0.25 mm x 1.0 μm, Part No. **N9316287**

Food

The preparation and analysis of polycyclic aromatic hydrocarbons in meat by GC/MS.



Column: Elite-5ms column, 30 m x 0.25 mm x 0.25 μm, Part No. **N9316282**
Liner Deactivated Liner, Part No. **N6502002**

Elite-17ms

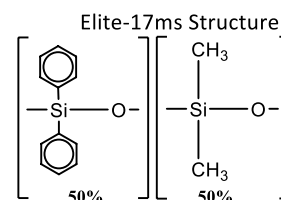
The Elite-17ms columns are general purpose, mid-polarity columns that are coated with a crosslinked, (50%-diphenyl)-dimethylpolysiloxane engineered for very low bleed to meet the requirements of sensitive MS detectors.

Features

- Temperature Range: 40 °C to 300/340 °C
- Equivalent to USP G3 phase

Applications

- Herbicides and pesticides
- Phthalate esters, sterols and rosin acids



ID (mm)	df (μm)	Temp Limits (°C)	15 m Part No.	30 m Part No.	60 m Part No.
0.18	0.18	40 to 300/340	N9316534		
0.25	0.15	40 to 300/320	N9316535	N9316537	
	0.25	40 to 300/320	N9316536	N9316538	N9316539
0.32	0.15	40 to 300/320	N9316540	N9316542	
	0.25	40 to 300/320	N9316541		

Elite-35ms

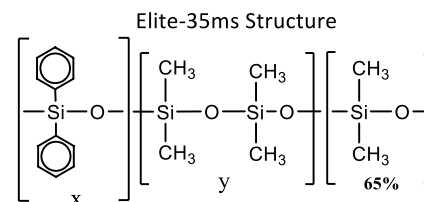
The Elite-35ms columns are general purpose, mid-polarity columns offering extremely low bleed at higher temperatures. They are coated with a unique blend of linked dimethyl polysiloxanes and diphenyl polysiloxanes that are inert and selective for substituted polar compounds, such as drugs, pesticides, herbicides, PCBs and phenyls, while maintaining a similar selectivity and polarity as traditional Elite-35 phases.

Features

- Temperature Range: 50 °C to 340/ 360 °C
- Equivalent to USP G42 phase

Applications

- Pesticides and herbicides
- PCBs



ID (mm)	df (μm)	Temp Limits (°C)	15 m Part No.	30 m Part No.
0.25	0.25	50 to 340/360	N9305686	N9305687
	0.50	50 to 340/360	N9305688	N9305689
	1.00	50 to 320/340	N9305690	N9305691
0.32	0.25	40 to 340/360	N9305692	N9305693
	0.50	40 to 340/360	N9305694	N9305695
	1.00	40 to 320/340	N9305696	N9305697

Elite-624ms

The Elite-624ms incorporates a unique proprietary blend of cyanopropyl and methyl siloxanes that results in a very inert, extremely low bleed and high thermal stability column. This column provides excellent peak shape for a wide range of compounds and is highly selective for residual solvents making it a great choice for USP<467>. These columns are manufactured for column-to-column reproducibility, so they are well suited for validated methods.

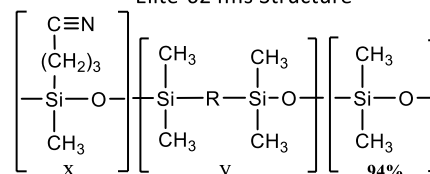
Features

- Temperature Range: -20 °C to 300/320 °C
- Similar to USP G43 phase
- Ideal choice for USP method 467

Applications

- Residual solvents
- Suitable for USP 467

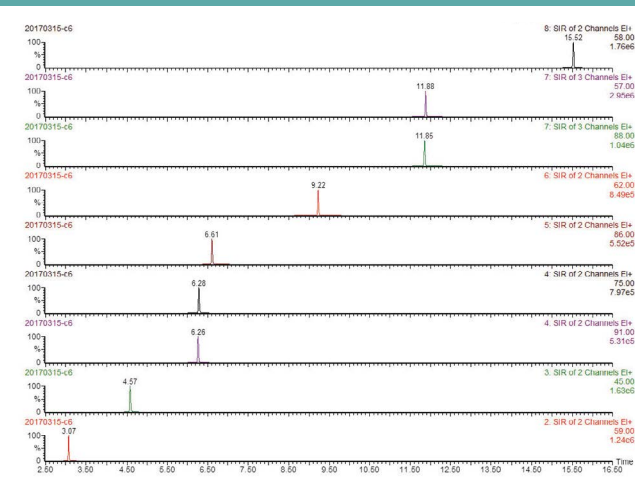
Elite-624ms Structure



ID (mm)	df (μm)	Temp Limits (°C)	20 m Part No.	30 m Part No.	60 m Part No.
0.18	1.00	-20 to 300/320	N9315067		
0.25	1.40	-20 to 300/320		N9315068	N9315066
0.32	1.80	-20 to 300/320		N9315069	N9315070

Industrial

Determination of nine carbonates in lithium ion battery electrolyte by GC/MS.



Recommended Column: Elite-35ms, 30 m x 0.25 mm x 0.25 μm (Part No. **N9316438**)

Liner: Capillary splitless deactivated glass liners with deactivated wool (**N9306235**)

High Temperature Columns

Available in a range of phases with varying polarity, the high temperature (ht) columns are specifically designed for reduced bleed when operating at higher temperatures, up to 400 °C. The optimum higher operating temperatures varies by phase.

Elite-1ht

ID (mm)	df (µm)	Temp Limits (°C)	15 m Part No.	30 m Part No.
0.25	0.10	-60 to 380/400	N9316268	N9316269
0.32	0.10	-60 to 380/400	N9316270	N9316271

Elite-17ht

ID (mm)	df (µm)	Temp Limits (°C)	30 m Part No.
0.25	0.15	40 to 300/320	N9316264
0.32	0.15	40 to 300/320	N9316266

Elite-5ht

ID (mm)	df (µm)	Temp Limits (°C)	15 m Part No.	30 m Part No.
0.25	0.10	-60 to 400	N9316272	N9316273
0.32	0.10	-60 to 400	N9316274	N9316275

Elite-SimDist ht

Application: High-temperature simulated distillation

Phase: Metal Column, 100% dimethylpolysiloxane, non-polar

ID (mm)	df (µm)	Temp Limits (°C)	5 m Part No.	6 m Part No.
0.53	0.15	-60 to 400		N6107191
0.53	0.10	-60 to 450	NR213314	

Metal High Temperature Columns

Using our new metal capillary columns eliminates the risk of column breakage at higher operating temperatures. A range of phases are offered, covering common applications. Rugged up to 450 °C although the exact upper temperature limits varies depending on phase and column configurations.

	Temp Limits (°C)	Inner Diameter (mm)	df (µm)	15 m Part No.	30 m Part No.	60 m Part No.
Elite-1mht	-60 to 340/430	0.25	0.1		N9303453	
Elite-1mht	-60 to 340/430	0.25	0.25	N9303454	N9303455	N9303456
Elite-5mht	-60 to 330/430	0.25	0.1	N9303457	N9303458	
Elite-5mht	-60 to 330/430	0.25	0.25	N9303459	N9303460	N9303461
Elite-1301mht	-20 to 280	0.53	3.0	N9303462	N9303463	
Elite-1701mht	-20 to 260	0.53	1.0	N9303464	N9303465	
Elite-1701mht	-20 to 250	0.53	1.5		N9303466	

Elite-BAC Advantage: Blood Alcohol Content

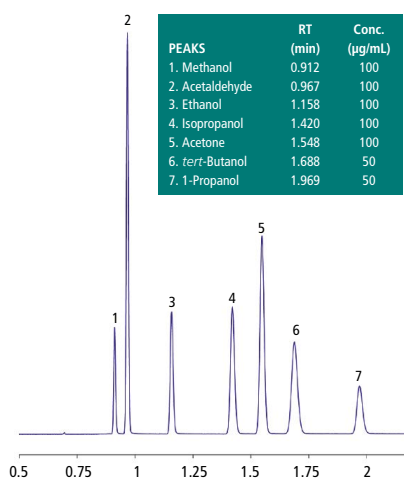
The Elite-BAC Advantage columns are optimized for selectivities guaranteed to resolve ethanol, internal standards, and frequently encountered interferences. These application-specific columns for blood alcohol analysis baseline separate all critical compounds, including ethanol, methanol, acetone, *tert*-butanol, acetaldehyde, isopropanol, and *n*-propanol, in less than 2 minutes. Every Elite-BAC 1 Advantage and Elite-BAC 2 Advantage column is qualified with a test mix containing these important BAC target compounds to ensure reproducibility. These columns, baseline separate all blood alcohol compounds in blood, breath, or urine, in less than 2 minutes, under isothermal conditions. Isothermal analysis increases productivity by eliminating the need for oven cycling. Confirmation is easily achieved with this tandem set because there are two elution order changes between the columns.

Features and Benefits

- Robust and reproducible
- Baseline separation of all components in less than 2 minutes
- Stable to 260 °C

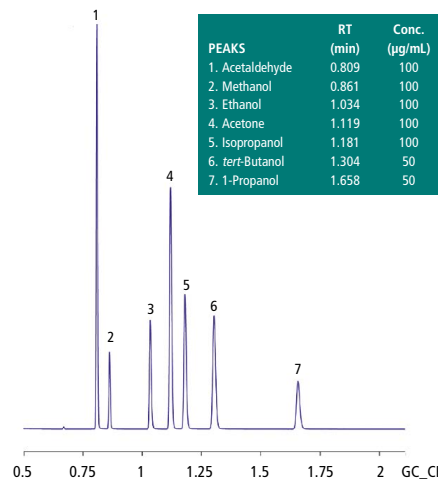
Clinical

Elite-BAC 1 advantage.



Clinical

Elite-BAC 2 advantage.



- Baseline resolution
- Symmetrical peaks
- Run time under 2 min

Column Type	ID (mm)	df (µm)	Temp Limits (°C)	10 m Part No.	30 m Part No.
Elite-BAC 1 Advantage	0.18	1.00	-20 to 240/260	N9315075	
	0.32	1.80	-20 to 240/260		N9315071
	0.53	3.00	-20 to 240/260		N9315072
Elite-BAC 2 Advantage	0.18	0.34	-20 to 240/260	N9315076	
	0.32	0.60	-20 to 240/260		N9315073
	0.53	1.00	-20 to 240/260		N9315074

Elite-VMS

Elite-VMS columns offer lower bleed, better selectivity, and overall faster analysis for separating volatile organic compounds. The stationary phase is a highly stable polymer that provides outstanding analysis of volatile compounds on MS detectors. The 0.18 and 0.25 mm ID columns allow sample splitting at the injection port, eliminating the added expense and maintenance of a jet separator. A 0.45 mm or 0.53 mm ID column can be directly connected to the purge-and-trap transfer line in a system equipped with a jet separator.

ID (mm)	df (μm)	Temp Limits (°C)	30 m Part No.	60 m Part No.
0.18	1.00	-40 to 240/260	N9316650¹	N9316651¹
0.25	1.40	-40 to 240/260	N9316652	N9316653
0.32	1.80	-40 to 240/260	N9316654	N9316655
0.45	2.55	-40 to 240/260	N9316656	N9316657
0.53	3.00	-40 to 240/260	N9316658	N9316659

¹ The lengths of N9316650 and N9316651 are 20 m and 40 m, respectively

Features and Benefits

- Temperature Range: -40 °C to 240/260 °C
- No known equivalent phases

Applications

- Ideal for analysis of volatile organic pollutants by GC/MS
- Suitable for EPA Method 8260B

Elite-XLB

The Elite-XLB phase is a proprietary low-polarity, very inert and exceptionally low bleed column for GC/MS analysis of pesticides, PCB congeners (e.g., Aroclor mixes) and PAHs. Improvements in polymer synthesis and tubing deactivation enable us to make inert, stable Elite-XLB columns especially well-suited for analyzing active, high molecular weight compounds with sensitive GC-MS systems, including ion trap detectors.

Features and Benefits

- Temperature Range: 30 °C to 340/360 °C
- No known equivalent phases
- Exceptionally low bleed for GC/MS

Applications

- Pesticides, PCB congeners
- Semi volatiles in drinking water
- Suitable for EPA Method 525

ID (mm)	df (μm)	Temp Limits (°C)	15 m Part No.	30 m Part No.	60 m Part No.
0.18	0.18	40 to 340/360		N9316480¹	
0.20	0.33	40 to 340/360	N9316496²	N9316497²	
0.25	0.10	40 to 340/360		N9316483	
	0.25	40 to 340/360	N9316481	N9316484	N9316487
	1.00	40 to 340/360	N9318482	N9316485	
0.32	0.10	40 to 340/360		N9316489	
	0.25	40 to 340/360	N9316488	N9316490	N9316493
	0.50	40 to 340/360		N9316492	
	1.00	40 to 340/360		N9316491	
0.53	1.50	40 to 320/340	N9316494	N9316495	

¹ The length of N9316480 is 20 m.

² The lengths of N9316496 and N9316497 are 12 m and 25 m, respectively.

Elite-Volatiles

The Elite-Volatiles stationary phase and optimized column dimensions provide low bleed, excellent resolution, and fast analysis times for volatile organic pollutants.

Features

- Temperature Range: -20 °C to 240 °C
- Proprietary phase
- Ideal for EPA Method 8021

Applications

- Volatile organic pollutants
- Suitable for EPA Method 8021

ID (mm)	df (μm)	Temp Limits (°C)	30 m Part No.	60 m Part No.	75 m Part No.
0.25	1.40	-20 to 240	N9316388	N9316389	
0.32	1.80	-20 to 240	N9316390	N9316391	
0.45	2.55	-20 to 240	N9316392		N9316393

Elite-CLPesticides: Chlorinated Pesticides

Elite-CLPesticides is specially designed to overcome the coelutions and analyte breakdown typically encountered in chlorinated pesticide analyzers for U.S. EPA methods 8081, 608, and CLP. Column bleed measured by ECD is extremely low at temperatures greater than 300 °C, which is critical for baking out the column to remove high-boiling compounds commonly found in pesticide/PCB extracts.

Features and Benefits

- Thermally stable to 340 °C
- Low column bleed – ideal for ECD or GC/MS analysis
- Exceeds performance criteria for U.S. EPA Methods 8081, 608 and CLP
- Baseline separation in less than 15 minutes

Applications

- Chlorinated pesticides and herbicides
- Exceeds performance criteria for U.S. EPA Methods 8081, 608 and CLP

Column Type	ID (mm)	df (μm)	Temp Limits (°C)	15 m Part No.	30 m Part No.
Elite-CLPesticides	0.25	0.25	-60 to 320/340	N9316661	N9316662
	0.32	0.50	-60 to 320/340	N9316663	N9316664
	0.53	0.50	-60 to 300/320	N9316665	N9316666
Elite-CLPesticides 2	0.25	0.20	-20 to 240/260	N9316667	N9316668
	0.32	0.25	-20 to 240/260	N9316669	N9316670
	0.53	0.42	-20 to 240/260	N9316671	N9316672

Elite-502.2: U.S. EPA Method 502.2

Application: Analysis of volatiles by U.S. EPA method 502.2

Phase: Proprietary Dimethyl-diphenyl polysiloxane, low-polarity

ID (mm)	df (μm)	Temp Limits (°C)	60 m Part No.	75 m Part No.	105 m Part No.
0.25	1.40	0 to 250/270	N9316498		
0.45	2.55	0 to 250/270		N9316188	N9316189
0.53	3.00	0 to 250/270			N9316190

Elite-RX: Drugs of Abuse

Application: Analysis of drugs of abuse

Phase	ID (mm)	df (μm)	Temp Limits (°C)	12 m Part No.	25 m Part No.
Elite-1 RX	0.20	0.33	-60 to 330/350	N9316345	N9316346
Elite-5ms RX	0.20	0.33	-60 to 330/350	N9316349	N9316350
Elite-17 RX	0.20	0.33	40 to 300/320	N9316347	N9316348

Elite-Betecylodextrin: Chiral Separations

Application: General-purpose chiral, Chiral compounds in essential oils

Column Type	ID (mm)	df (μm)	Temp Limits (°C)	30 m Part No.
Elite-Betacydex	0.25	0.25	40 to 230	N9316319
Elite-Cyclosil B	0.25	0.25	40 to 230	N9316545

Elite-SimDist

Application: Simulated distillation

Phase: Specially processed dimethylpolysiloxane, non-polar

ID (mm)	df (μm)	Temp Limits (°C)	10 m Part No.
0.45	2.55	-60 to 360	N9316261
0.53	3.00	-60 to 360	N9316262

Elite-608

Application: Analysis of semivolatile pesticides by U.S. EPA method 608

Phase: Phenyl methyl polysiloxane, mid-polarity

ID (mm)	df (μm)	Temp Limits (°C)	15 m Part No.	60 m Part No.
0.32	0.50	40 to 290/310		N9316191
0.45	0.42	40 to 270/290	N9316194	N9316195
	0.70	40 to 260/280	N9316192	N9316193
0.53	0.50	40 to 270/290	N9316198	N9316199
	0.83	40 to 260/280	N9316196	N9316197

Elite-TPH

Application: Analysis of total petroleum hydrocarbons

Phase: (5%-diphenyl)-dimethylpolysiloxane, low polarity

ID (mm)	df (μm)	Temp Limits (°C)	30 m Part No.
0.32	0.25	-10 to 320	N9316386
0.45	1.00	-10 to 290	N9316387

Elite-PONA

Application: Detailed analysis of petroleum naphtha

Phase: Specially processed dimethylpolysiloxane, non-polar

ID (mm)	df (μm)	Temp Limits (°C)	50 m Part No.	100 m Part No.
0.20	0.50	-60 to 300/320	N9316065	
0.25	0.50	-60 to 300/320		N9316015

Elite-FFAP

Application: Free fatty acids

Phase: Nitroterephthalic acid modified PEG (bonded), polar

ID (mm)	df (μm)	Temp Limits (°C)	15 m Part No.	30 m Part No.
0.25	0.25	40 to 250	N9316351	N9316352
0.32	0.25	40 to 250	N9316353	N9316354
0.45	0.85	40 to 240/250	N9316355	N9316356
0.53	1.00	40 to 240/250	N9316357	N9316358

Elite-5 Amine

Application: Amines and other basic compounds including alkylamines and di/triamines

ID (mm)	df (μm)	Temp Limits (°C)	15 m Part No.	30 m Part No.
0.25	0.50	-60 to 300/315	N9316684	N9316673
	1.00	-60 to 300/315	N9316674	N9316675
0.32	1.00	-60 to 300/315	N9316676	N9316677
	1.50	-60 to 290/305	N9316678	N9316679
0.53	1.00	-60 to 290/305		N9316680
	3.00	-60 to 280/295	N9316681	N9316682

Elite-2330/Elite-23

Application: Analysis of cis/trans isomers in FAMES and dioxin isomers. Equivalent to USP G8 and G48

Phase: Biscyanopropyl cyanopropylphenyl polysiloxane, highly polar

ID (mm)	df (μm)	Temp Limits (°C)	60 m Part No.	Column Type
0.25	0.10	0 to 275	N6107813	Elite-2330
0.25	0.20	0 to 275	N6107814	Elite-2330
0.25	0.25	40 to 250/260	N9316508	Elite-23

Elite-MTBE

Application: Analysis of methyl t-butylether and other oxygenates

Phase: Proprietary low polarity phase

ID (mm)	df (μm)	Temp Limits (°C)	30 m Part No.
0.45	2.55	10 to 250	N9316520
0.53	3.00	10 to 250	N9316521

Elite-2560

Application: Application-specific column for cis/trans FAMES

Phase: Biscyanopropylpolysiloxane, highly polar

ID (mm)	df (μm)	Temp Limits (°C)	100 m Part No.
0.25	0.20	20 to 250	N9311570

Elite-Carbon Columns

For Volatiles in Hydrocarbon Streams

The Elite-Carbon columns offer rapid separation of permanent gas/light hydrocarbon mixtures; including carbon monoxide and carbon dioxide without cryogenic cooling. They are preconditioned and thus take less than 30 minutes to stabilize. They are used in conjunction with a molecular sieve column (Molecular sieve 5 Å, 50 m, 0.53 mm, 50 μm Part No. **NR201108**).

ID (mm)	Length (m)	Mesh Size	Temp Limits (°C)	Part No.
1.0	1	100/120	Up to 300	N9303927
1.0	2	100/120	Up to 300	N9303926

Fittings for the micropacked Elite-Carbon columns need to be ordered separately.

Description	Part No.
Installation kit for 1 mm ID columns; for valve applications	N9303450
Installation kit for 1 mm ID columns; for direct injections	N9303451

Elite-Alumina/KCl* PLOT

ID (mm)	Length (m)	Film Thickness (μm)	Temp Limits (°C)	Part No.
0.53	50	10	up to 200	N9316544

* Lower Polarity than Elite-Alumina.

Elite-Alumina/Na₂SO₄ PLOT

ID (mm)	Length (m)	Film Thickness (μm)	Temp Limits (°C)	Part No.
0.32	50	5	up to 200	N6107777

Elite-Alumina PLOT

Phase for Analysis of Light Hydrocarbons

ID (mm)	Length (m)	Film Thickness (μm)	Temp Limits (°C)	Part No.
0.53	30	6	-60 to 200	N9316304
0.53	50	10	-60 to 200	N9316305

Note: -60 °C is the lowest temperature used on this phase in our lab. Lower temperatures may be used depending on the sample.

Elite-Cyclosil B PLOT

For Chiral Separations

ID (mm)	Length (m)	Film Thickness (μm)	Temp Limits (°C)	Part No.
0.25	30	0.25	35 to 230	N9316545
0.32	30	0.25	35 to 230	N9316546

Elite-Molesieve PLOT

Phase for Analysis of Permanent Gases

ID (mm)	Length (m)	Film Thickness (μm)	Temp Limits (°C)	Part No.
0.53	30	—	-60 to 300	N9316361

Note: -60 °C is the lowest temperature used on this phase in our lab. Lower temperatures may be used depending on the sample.

Elite-Q PLOT

Phase for Analysis of Light Gases and Hydrocarbons

ID (mm)	Length (m)	Film Thickness (μm)	Temp Limits (°C)	Part No.
0.32	30	10	-60 to 250	N9316359
0.53	30	20	-60 to 250	N9316360

Note: -60 °C is the lowest temperature used on this phase in our lab. Lower temperatures may be used depending on the sample.

Miscellaneous Accessories

Description	Part No.
2 oz. Replacement Charcoal (30/60 mesh)	03300904
Liner Removal Tool	N6100102
Injector/Detector Adapter 1/4 in. Adapter fits on injector and detector outlet (inside oven) for use with 1/4 in. columns	00080100
Silanized Glass Wool (2 oz.)	03300905

Wide-Bore Adapter Kit

Contains all the parts necessary to adapt to packed column injectors quickly and easily for use with wide-bore capillary columns. Includes 0–20 mL/min flow controller element, wide-bore adapter with 1/16 in. fitting, wide-bore glass liner and column support hanger.



Description	Part No.
0.53 Capillary Column Adapter Kit	N6120001

Wafer Scribes

The PerkinElmer ceramic wafer scribe is inexpensive and ideal for cutting polyimide fused silica capillary columns and guard columns. The scribe is easy to hold and simple to use. All four sides can be used as a cutting tool.



Description	Part No.
Wafer Scribes (pkg. 10)	N9301376

Connectors

Universal Connectors

Description	Part No.
Universal Connector (pkg. 5)	N9302149
Metal Universal Connectors: 0.25 mm ID (pkg. 10)	N9301167
Universal Y Splitter (pkg. 1)	N9303448
Polyimide Sealing Resin (5 g)	N9301343
Undeactivated Presstight Column Connectors (pkg. 5)	N9303962