



Designed and Tested For Aqueous Samples



Zebron™
ZB-WAX PLUS

phenomenex®
...breaking with traditionSM

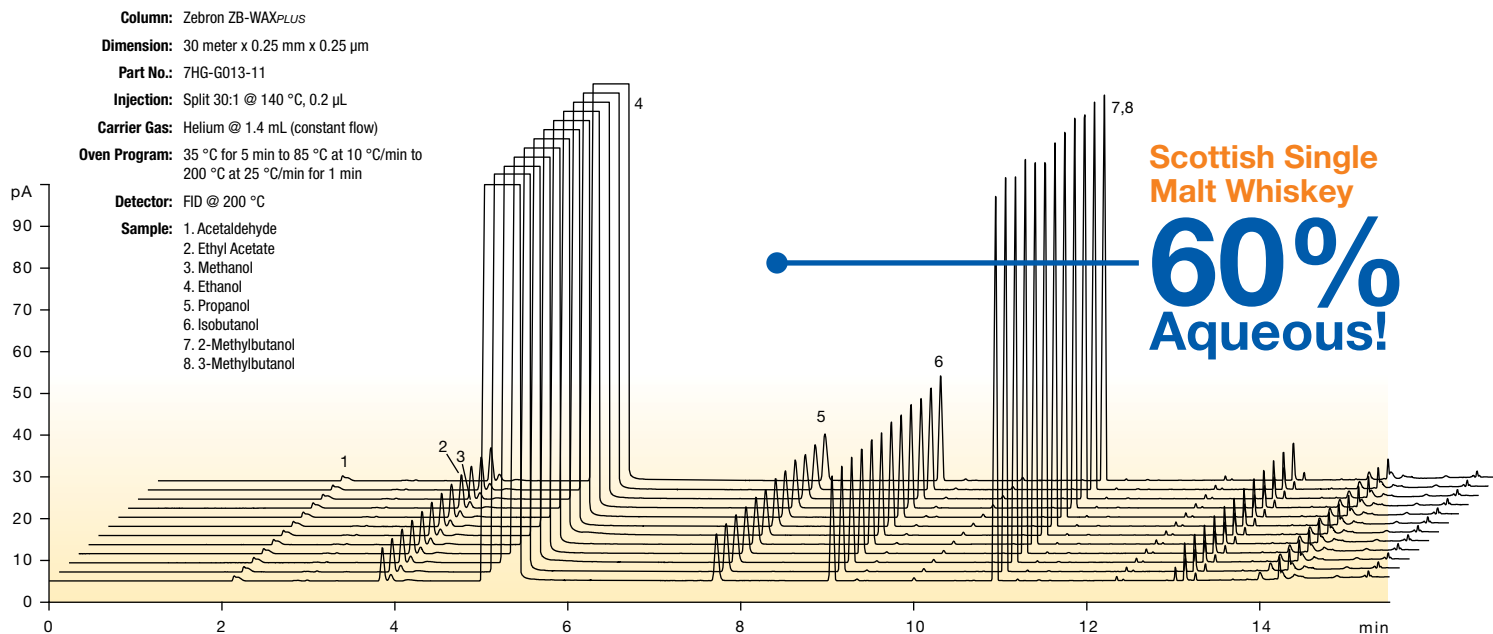




Enhanced Aqueous Stability

Wax columns provide optimal selectivity for many aqueous soluble compounds such as those found in alcoholic beverages or glycol samples. Historically, Polyethylene Glycol (PEG) phases have been unstable with aqueous

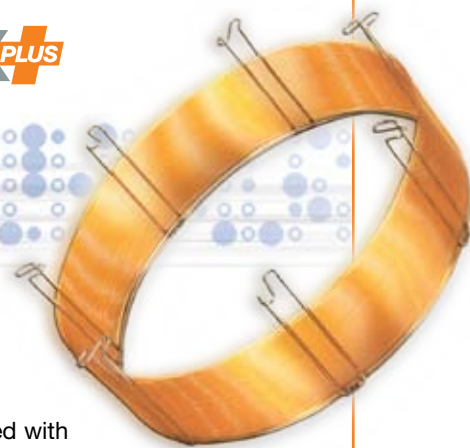
samples resulting in poor reproducibility and decreased lifetime. The ZB-WAX^{PLUS}™ bonding procedure results in exceptional stability to repeated injections of aqueous matrices.



Zebtron  **ZB-WAX^{PLUS}**

- Enhanced Selectivity
- Reduced Activity
- Stable for Aqueous Samples
- Increased Efficiency at 20°C
- Fully Bonded and Solvent Rinsable
- Guaranteed Performance

ZB-WAX^{PLUS} is the latest in an ever-increasing line of Zebtron GC columns produced with the needs of today's chromatographer in mind. Zebtron chemists are the foremost experts in the field of bonded phase technology. The ZB-WAX^{PLUS} was designed to provide two main benefits: increased selectivity and reduced activity. Additional testing has shown that these columns show unprecedented reproducibility and stability, which make them perfect for important methods. Try ZB-WAX^{PLUS} and see how it will improve your GC analysis.

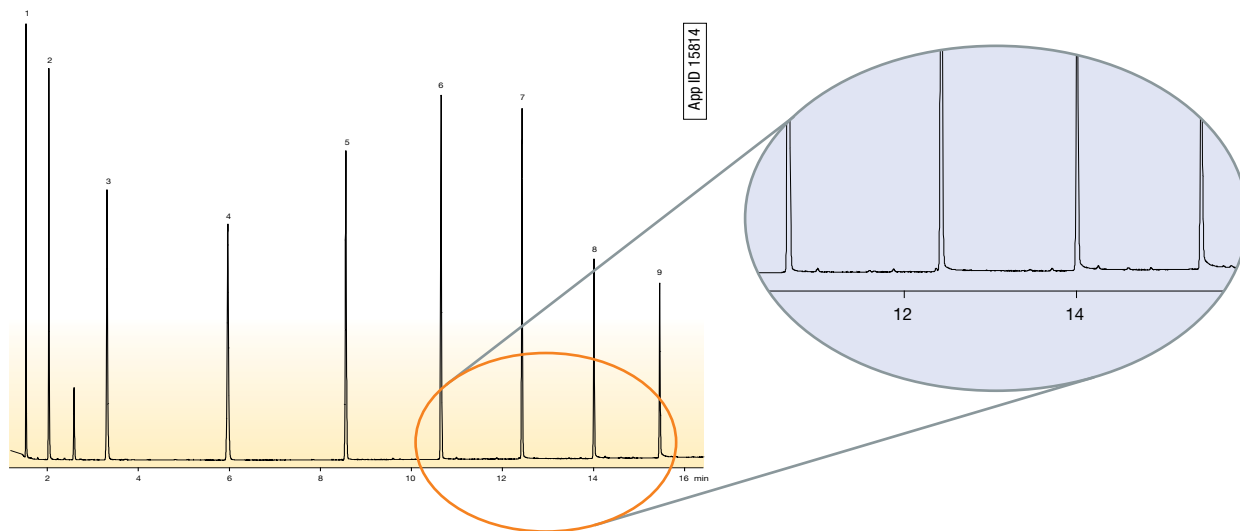


Reduced Activity

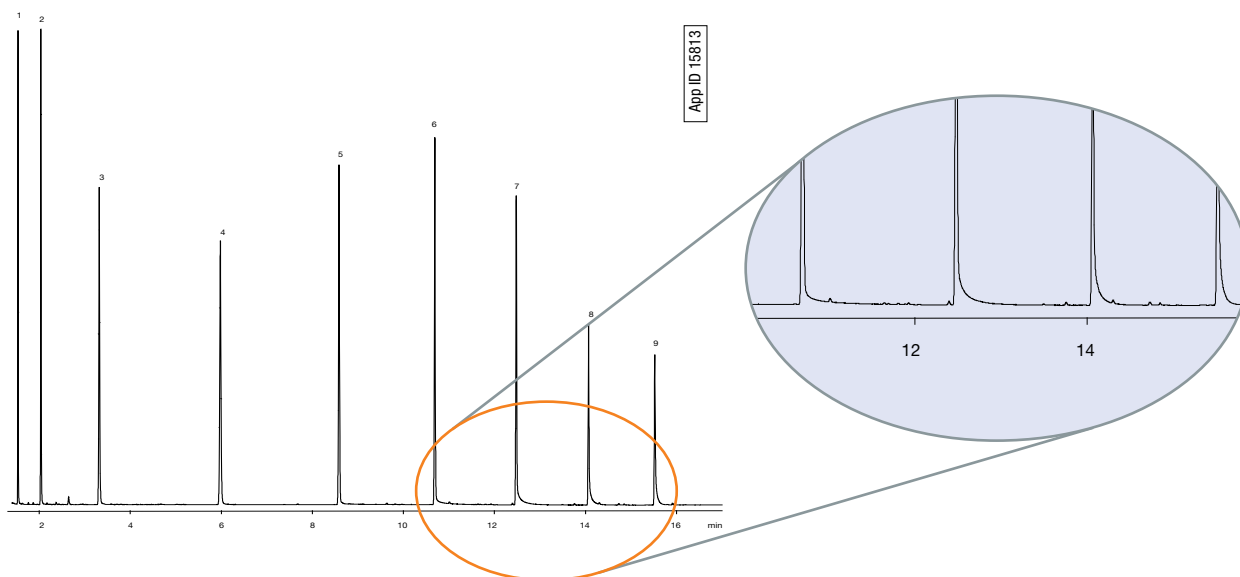
Low column activity is essential to achieving good quantitation and sensitivity. Whether you are analyzing aldehydes, acids, or pharmaceutical compounds the

ZB-WAX^{PLUS} provides the **highest level of deactivation possible**.

Zebtron ZB-WAX^{PLUS}TM



HP[®] INNOWax[®]



Conditions same for both columns:

Dimension: 30 meter x 0.25 mm x 0.25 μ m

Injection: Split 100:1 @ 250 °C, 1 μ L

Carrier Gas: Hydrogen @ 1.0 mL/min (constant flow)

Oven Program: 40 °C for 5 min to 200 °C at 10 °C/min and hold until last peak elutes

Detector: FID @ 225 °C

Sample: 1. Propanal
2. Butanal
3. Pentanal
4. Hexanal
5. Heptanal
6. Octanal
7. Nonanal
8. Decanal
9. Undecanal

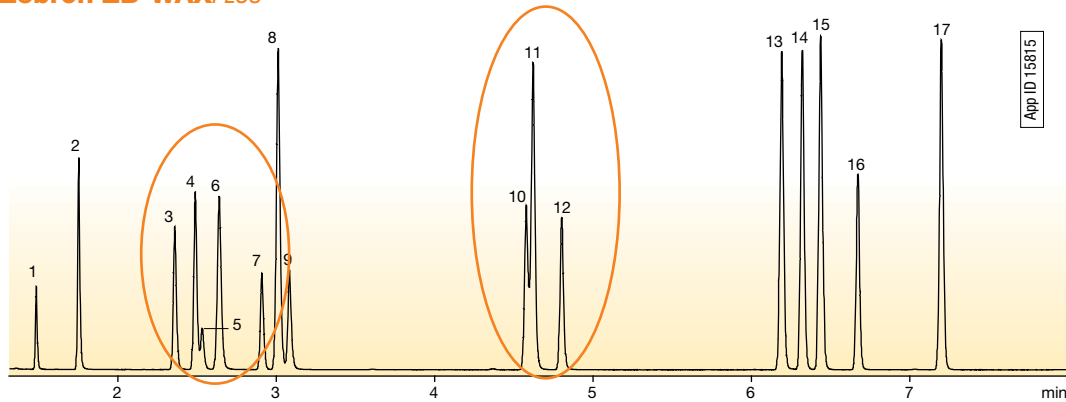
*All columns were new, never used, prior to this testing and purchased either directly from the original manufacturer or through an authorized distributor. All testing was carefully controlled to ensure conditions were similar for all columns involved. The comparative data is not representative of every application.



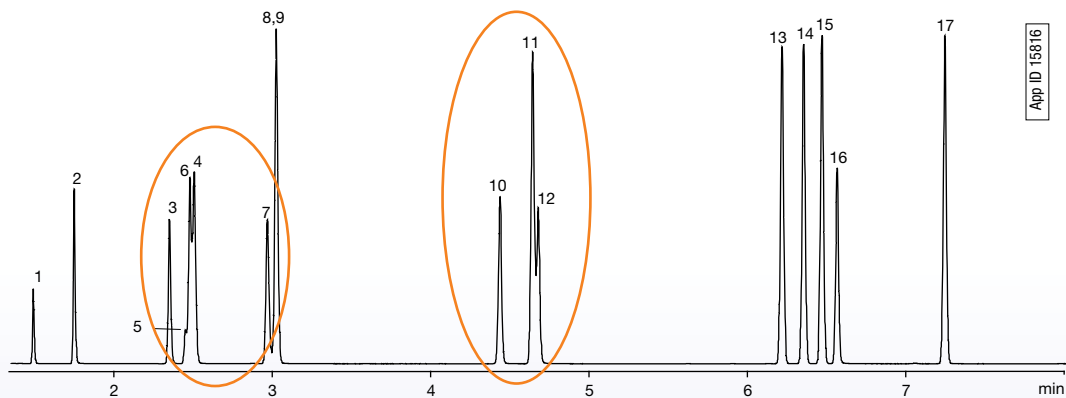
Enhanced Resolution and Selectivity

Resolution is the primary goal of all chromatography methods! The new ZB-WAX_{PLUS} has the selectivity you need to separate key compounds in your mix. **Other Wax products just cannot compete.***

Zebtron ZB-WAX_{PLUS}TM



Restek® StabilWax®



Conditions same for both columns:

Dimension: 30 meter x 0.25 mm x 0.25 μ m

Injection: Split 100:1 @ 250 °C, 1 μ L

Carrier Gas: Hydrogen @ 1.0 mL/min (constant flow)

Oven Program: 35 °C for 2.5 min to 85 °C at 10 °C/min and hold until last peak elutes

Detector: FID @ 225 °C

Sample:

1. Methyl Formate
2. Acetone
3. Ethyl Acetate
4. Methyl Ethyl Ketone
5. Methanol
6. 2-Methyl-2-propanol
7. Methylene Chloride
8. Benzene
9. Ethanol
10. 2-Butanol
11. Toluene
12. n-Propanol
13. Ethyl Benzene
14. p-Xylene
15. m-Xylene
16. 1-Butanol
17. o-Xylene

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The latest advancement in GC is towards narrow bore columns such as 0.18 and 0.10 mm.

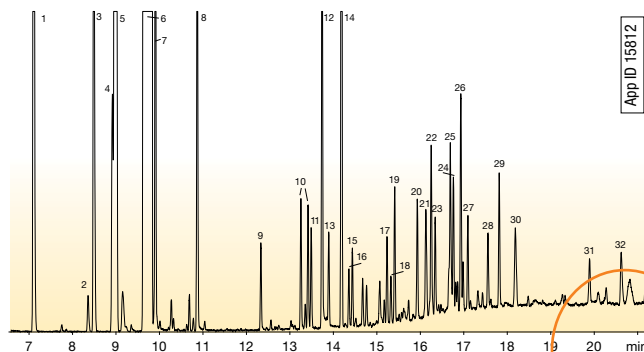
allows us to reproducibly bond these Fast GC columns.

This allows for easy transfer from current methods.

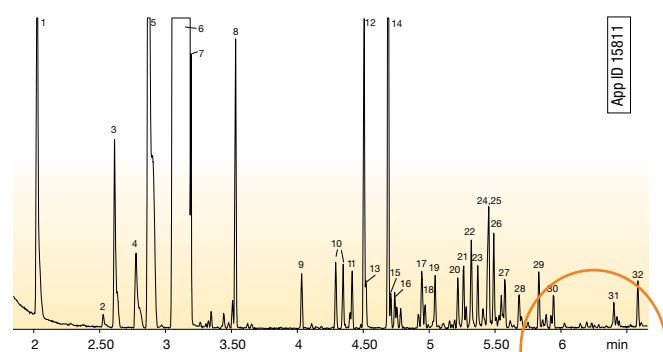
The stable bonding procedure for the ZB-WAX_{PLUS}TM

- **Enhanced Resolution**
- **Faster Run Time**
- **Better Efficiency**
- **More Throughput**

Zebtron ZB-WAX_{PLUS} 60 m x 0.25 mm x 0.25 μm



Zebtron ZB-WAX_{PLUS} 10 m x 0.10 mm x 0.10 μm



65% FASTER!

Column: ZB-WAX_{PLUS}
Dimension: 60 meter x 0.25 mm x 0.25 μm
Part No.: 7KG-G013-11
Injection: Split 40:1 @ 220 °C, 0.1 μL
Carrier Gas: Helium @ 1.2 mL/min (constant flow)
Oven Program: 40 °C for 0.2 min to 210 °C @ 10 °C/min for 10 min
Detector: MSD; 45-450 amu

Sample: (Same for both columns)

1. α-Pinene	12. Decanal	22. α-Terpineol
2. β-Pinene	13. α-Cubebene	23. Dodecanal
3. Sabinene	14. Linalool	24. Valencene
4. 3-Carene	15. β-Cubebene	25. Citral
5. β-Myrcene	16. Octanol	26. Carvone
6. Limonene	17. Germacrene	27. Cadinene
7. β-Phellandrene	18. Caryophyllene	28. Perillaldehyde
8. Octanal	19. trans-p-Mentha-2,8-dienol	29. trans-Carveol
9. Nonanal	20. cis-p-Mentha-2,8-dienol	30. cis-Carveol
10. Limonene Oxides	21. Geranial	31. Perillol
11. Citronellal		32. Octanoic acid

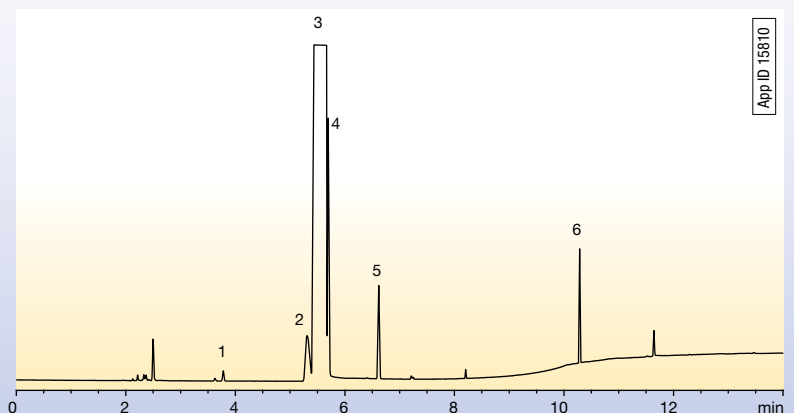
Column: ZB-WAX_{PLUS}
Dimension: 10 meter x 0.10 mm x 0.10 μm
Part No.: 7CB-G013-02
Injection: Split 20:1 @ 220 °C, 0.2 μL
Carrier Gas: Helium @ 0.3 mL/min constant flow
Oven Program: 35 °C for 1 min to 250 °C @ 30 °C/min for 5 min
Detector: MSD; 45-450 amu

Complete resolution of o-, m-, and p-Xylene

BTEX Separation

Column: Zebtron ZB-WAX_{PLUS}
Dimension: 30 meter x 0.25 mm x 0.25 μm
Order No.: 7HG-G013-11
Injection: Split 75:1 @ 220 °C, 0.1 μL
Carrier Gas: Helium @ 1.2 mL/min (constant flow)
Oven Program: 70 °C for 6 min to 210 °C @ 25 °C/min and hold for 4 min
Detector: FID @ 250 °C

Sample: 1. Toluene
 2. Ethylbenzene
 3. p-Xylene
 4. m-Xylene
 5. o-Xylene
 6. Methyl Benzaldehyde



ORDERING INFORMATION



Zebron™ ZB-WAX^{PLUS}™ GC Columns

ID(mm)	df(µm)	Temp. Limits °C	Part No.	Price
10-Meter				
0.10	0.10	20 to 250/260	7CB-G013-02	
15-Meter				
0.25	0.25	20 to 250/260	7EG-G013-11	
0.53	1.00	20 to 230/240	7EK-G013-22	
20-Meter				
0.18	0.18	20 to 250/260	7FD-G013-08	
30-Meter				
0.25	0.25	20 to 250/260	7HG-G013-11	
0.25	0.50	20 to 250/260	7HG-G013-17	
0.32	0.25	20 to 250/260	7HM-G013-11	
0.32	0.50	20 to 250/260	7HM-G013-17	
0.32	1.00	20 to 230/240	7HM-G013-22	
0.53	1.00	20 to 230/240	7HK-G013-22	

Zebron™ ZB-WAX^{PLUS}™ GC Columns

ID(mm)	df(µm)	Temp. Limits °C	Part No.	Price
60-Meter				
0.25	0.15	20 to 250/260	7KG-G013-05	
0.25	0.50	20 to 250/260	7KG-G013-17	
0.25	0.25	20 to 250/260	7KG-G013-11	
0.32	0.25	20 to 250/260	7KM-G013-11	
0.32	0.50	20 to 250/260	7KM-G013-17	
0.53	1.00	20 to 230/240	7KK-G013-22	

Note: If you need a 5 in. cage, simply add a (-B) after the part number, e.g., 7HG-G013-11-B. Some exceptions may apply. Agilent 6850 and some SRI and process GC systems use only 5 in. cages.

Terms and Conditions
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Disclaimer
Comparative separations may not be representative of all applications. Phenomenex is in no way affiliated with Agilent or Restek.

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guarantee

If Zebron WAX^{PLUS} columns do not provide you with equivalent or better separations as compared to any other GC column of the same phase and comparable dimensions, return the column with comparative data within 45 days for a FULL REFUND.

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