

ACE[®] Generix[™]

High Performance, Excellent Value HPLC Columns

*Generix
Excellence*

ACE

ACE

Value

reproducibility

- Excellent efficiency
- Excellent reproducibility
- Excellent column lifetime
- C8 and C18 phases
- 3 μ m and 5 μ m particles



ACE[®] Generix[™]
HPLC Columns

ACE[®] Generix[™]

High Performance, Excellent Value HPLC Columns

High Efficiency 3µm and 5µm Particles with C18 and C8 Phases

- High purity, highly reproducible 3µm and 5µm silica
- Ultra narrow particle size distribution for excellent column efficiency
- C18 and C8 phases available

Excellent Reproducibility

- Made in the United Kingdom in laboratories accredited to ISO9001 Quality Standard
- Every column individually tested and supplied with a test chromatogram
- Excellent column and silica batch reproducibility (see Figure 1)

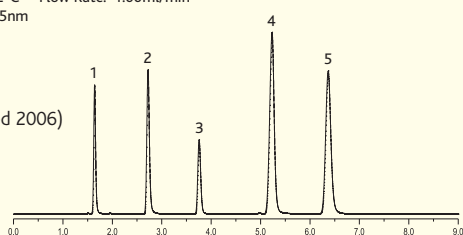
Excellent Column Lifetime

- Highly stable bonded phases (see Figure 2)
- Ultra robust HPLC column packing technology

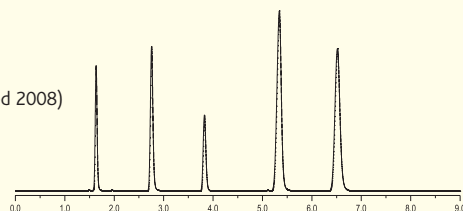
Figure 1 - Excellent Reproducibility

Column: ACE Generix 3µm C18, 150 x 4.6mm
Sample: 1) norephedrine 2) nortriptyline 3) toluene 4) imipramine 5) amitriptyline
Mobile Phase: 80:20 MeOH/25mM KH₂PO₄ (pH 6.0)
Temperature: 22°C Flow Rate: 1.00ml/min
Wavelength: 215nm

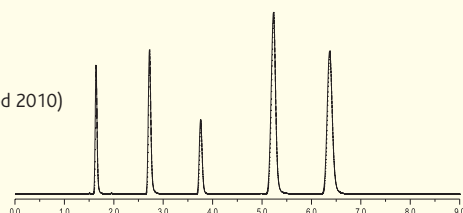
Batch #1
(Manufactured 2006)



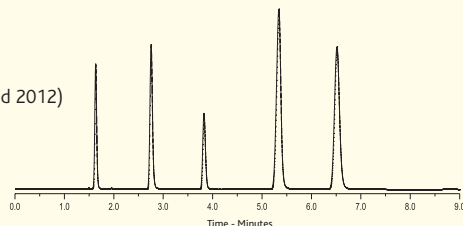
Batch #2
(Manufactured 2008)



Batch #3
(Manufactured 2010)



Batch #4
(Manufactured 2012)

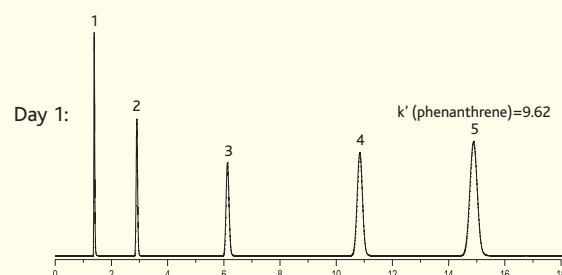


Conclusion:

Highly reproducible historical test data including different silica batches gives you future confidence in ACE Generix HPLC columns.

Figure 2 - Excellent Stability

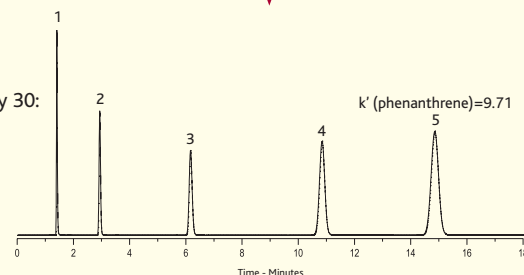
Acidic flow conditions
Column: ACE Generix 5µm C18, 150 x 4.6mm
Mobile Phase: 60:40 MeCN:0.1% TFA in H₂O (pH 1.8)
Temperature: 22°C Flow Rate: 1.00ml/min



Acidic Mobile Phase (pH 1.8)
(continuous flow)

>20,000 column volumes
>2,000 injections

Day 30:



Evaluation conditions

Sample: 1) uracil 2) dimethyl phthalate 3) toluene 4) biphenyl 5) phenanthrene
Mobile Phase: 60:40 MeCN:H₂O
Temperature: 22°C Flow Rate: 1.00ml/min
Wavelength: 254nm

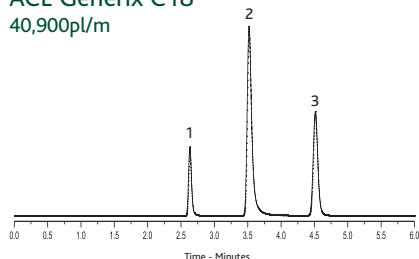
Conclusion:

Excellent chromatographic performance and stability for thousands of injections gives confidence in the long term use of ACE Generix HPLC columns.

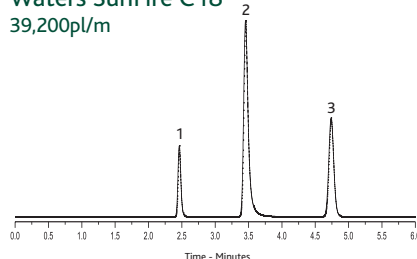
Comparison of Leading C18 HPLC Column Brands

- Comparison of column efficiency for pyridine, a basic compound
- Efficiency measured at 10% peak height to account for peak tailing effects

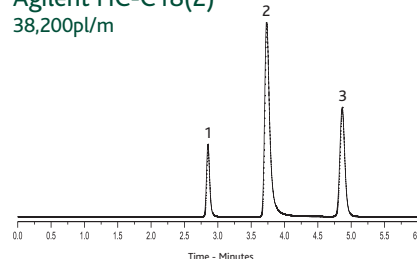
ACE Generix C18
40,900pl/m



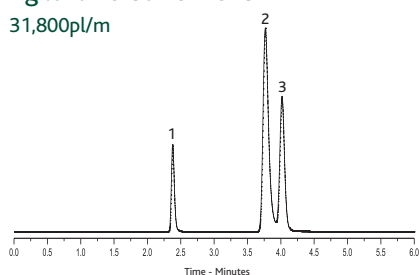
Waters SunFire C18
39,200pl/m



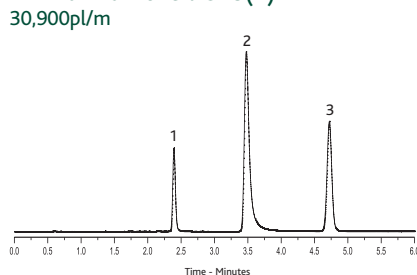
Agilent HC-C18(2)
38,200pl/m



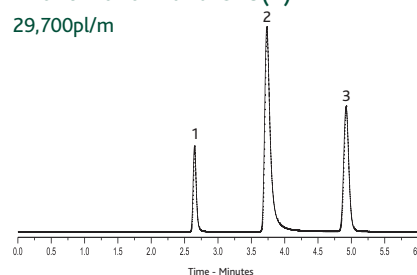
Agilent Zorbax SB-C18
31,800pl/m



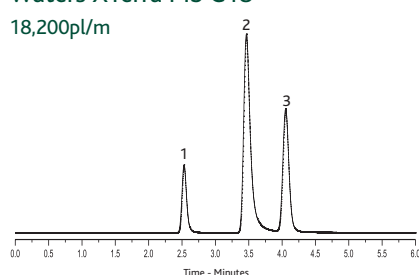
Dikma Diamonsil C18(2)
30,900pl/m



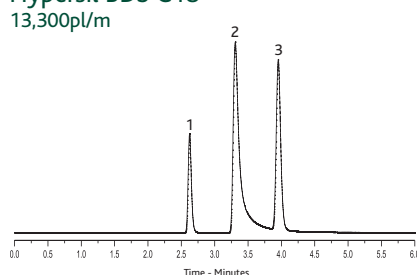
Phenomenex Luna C18(2)
29,700pl/m



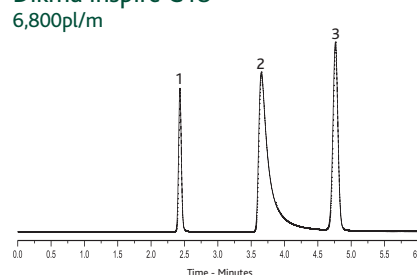
Waters XTerra MS C18
18,200pl/m



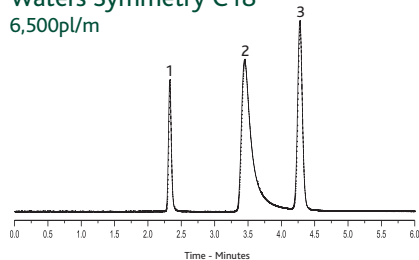
Hypersil BDS C18
13,300pl/m



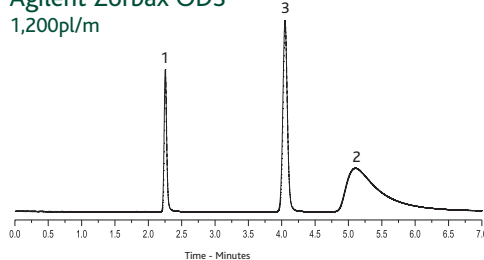
Dikma Inspire C18
6,800pl/m



Waters Symmetry C18
6,500pl/m



Agilent Zorbax ODS
1,200pl/m



Column Dimensions: 250 x 4.6mm, 5µm
Sample: 1) uracil 2) pyridine 3) phenol
Mobile Phase: 60:40 MeOH/10mM KH₂PO₄ (pH 6.0)
Temperature: 22°C Flow Rate: 1.00ml/min
Wavelength: 254nm

Comparative data may not be representative of all applications. Please see back page for acknowledgement of trademarks.

Conclusion:

- Significant differences in efficiency, peak shape and selectivity are seen when analysing pyridine - a small highly basic molecule.
- Increased tailing and retention are generally indicative of undesirable secondary interactions between pyridine and silanol groups on the stationary phase surface. These interactions can also result in poor column reproducibility.
- ACE Generix columns provide excellent separations at a lower cost than many leading HPLC column brands.

Phase Availability and Specifications

Phase ^a	Functional Group	Endcapped	Particle Size (µm)	Pore Size (Å)	Surface Area (m ² /g)	Carbon Load (%)	Maximum pH Range	USP Listing
ACE Generix C18	Octadecyl	Yes	3, 5	110	280	15.0	2.0-8.0 ^b	L1
ACE Generix C8	Octyl	Yes	3, 5	110	280	8.7	2.0-8.0 ^b	L7

^a ACE HPLC and ACE *Excel* UHPLC columns are available with 2µm, 3µm, 5µm and 10µm particle sizes and a wider range of stationary phase options.

^b For optimum column lifetime, a pH range of 2-8 is recommended. To increase column lifetime at mid/high pH, organic buffers, low buffer concentrations, high % organic solvent and low temperatures must be considered. Further information is contained within "A Guide to HPLC and LC/MS Buffer Selection" by John Dolan – contact your distributor to request your FREE copy.

ACE Generix 3µm C18 Columns

Column Diameter	Column Length			Guard Cartridge (5 pack)	PEEK Fingertight Column Connector (10 pack)
	50mm	100mm	150mm		
2.1mm	GEN-3C18-0502	GEN-3C18-1002	GEN-3C18-1502	GEN-3C18-GD2 ¹	ACE-CC10 ²
4.6mm	GEN-3C18-0546	GEN-3C18-1046	GEN-3C18-1546	GEN-3C18-GD ¹	ACE-CC10 ²

ACE Generix 5µm C18 Columns

Column Diameter	Column Length			Guard Cartridge (5 pack)	PEEK Fingertight Column Connector (10 pack)
	100mm	150mm	250mm		
2.1mm	GEN-5C18-1002	GEN-5C18-1502	GEN-5C18-2502	GEN-5C18-GD2 ¹	ACE-CC10 ²
4.6mm	GEN-5C18-1046	GEN-5C18-1546	GEN-5C18-2546	GEN-5C18-GD ¹	ACE-CC10 ²

ACE Generix 3µm C8 Columns

Column Diameter	Column Length			Guard Cartridge (5 pack)	PEEK Fingertight Column Connector (10 pack)
	50mm	100mm	150mm		
2.1mm	GEN-3C8-0502	GEN-3C8-1002	GEN-3C8-1502	GEN-3C8-GD2 ¹	ACE-CC10 ²
4.6mm	GEN-3C8-0546	GEN-3C8-1046	GEN-3C8-1546	GEN-3C8-GD ¹	ACE-CC10 ²

ACE Generix 5µm C8 Columns

Column Diameter	Column Length			Guard Cartridge (5 pack)	PEEK Fingertight Column Connector (10 pack)
	100mm	150mm	250mm		
2.1mm	GEN-5C8-1002	GEN-5C8-1502	GEN-5C8-2502	GEN-5C8-GD2 ¹	ACE-CC10 ²
4.6mm	GEN-5C8-1046	GEN-5C8-1546	GEN-5C8-2546	GEN-5C8-GD ¹	ACE-CC10 ²

¹ 5 pack – use with stand alone cartridge holder H0001 and coupler C0001.

² PEEK fingertight column connector (10 pack) - recommended for connecting all HPLC columns to all 1/16" od tubing types, slip free to 6,000psi.

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