

welch

Welch Materials, Inc.

Bridging Separation Techniques



Welch Materials, Inc.

HPLC Column, Preparative Column, Flash Column, GC Column,
Packing Materials, SPE, QuEChERS, HPLC Instrument



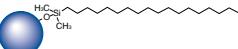
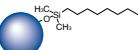
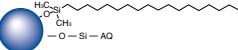
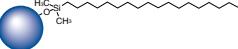
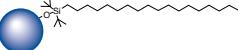
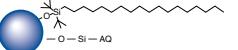
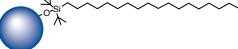
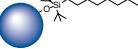
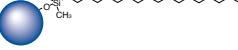
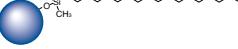
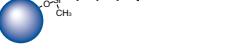
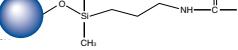
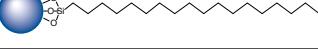
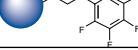
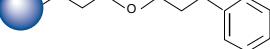
Quality, Innovation, Competitive Price

Welch Materials develops and manufactures chromatography consumables including HPLC columns, Solid Phase Extraction (SPE) columns, GC columns, sample vials, syringe filters, and chromatographic media.

Welch Materials (Shanghai), Inc. was established in 2003 at Shanghai, China and Welch Materials (Zhejiang) was formed in 2011 at Jinhua, Zhejiang, China. Our core strength was our extensive experience in particle surface modification science and techniques. We are experts in bonding chemistry and innovative packing materials for chromatography applications. By fully utilizing our resources, we have developed many innovative LC and GC consumable products, and in particular, our four series HPLC columns: Ultisil™, Welchrom®, Xtimate® and Topsil® series.



Welch Column List

Structural Formula	Column	pH Range	Surface Area(m ² /g)	Pore Size(Å)	Carbon Loading(%)	USP List
	Welchrom® C18	1.5-10	320	120	19	L1
	Welchrom® C8	1.5-10	320	120	12	L7
	Ultisil™ AQ-C18	1.5-10	320	120	12	L1
	Ultisil™ Amino Acid	1.5-10	320	120	17	L1
	Ultisil™ LP-C18	0.5-8.0	320	120	10	L1
	Ultisil™ LP-aq	1.0-8.0	320	120	5	L1
	Ultisil™ LP-C18	0.5-8.0	90	300	5	L1
	Ultisil™ LP-C8	1.0-8.0	320	120	5.5	L7
	Ultisil™ LP-CN	1.0-8.0	320	120	6	L10
	Ultisil™ XB-C18	1.5-10	320	120	17	L1
	Ultisil™ XB-C18	1.5-10	90	300	8	L1
	Ultisil™ XB-C8	1.5-10	320	120	12	L7
	Ultisil™ Polar RP	1.5-10	320	120	18	L1/L60
	Ultisil™ XB-C4	1.5-10	320	120	8	L26
	Ultisil™ XB-C4	1.5-10	90	300	3	L26
	Ultisil™ XB-C1	1.5-10	320	120	4	L13
	Ultisil™ C30	1.5-10	320	120	17	L62
	Ultisil™ PAH	1.5-10	320	120	22	L1
	Ultisil™ XB-Phenyl	1.5-10	320	120	12	L11
	Ultisil™ XB-Phenyl	1.5-10	90	300	4	L11
	Ultisil™ PFP	1.5-10	320	120	C 13%; F 7%	L11/L43
	Ultisil™ Phenyl-Ether	1.5-10	320	120	12%	L11

	$(CF_2)_7$ — CF_3	Ultisil™ F-C8	1.5-10	320	120	12	L7
		Ultisil™ MM NH ₂ /CN	2.0-8.0	320	120	/	/
		Ultisil™ MM C18/SCX	2.0-8.0	320	120	/	/
		Ultisil™ HILIC Amide	2.0-8.0	320	120	7%	/
		Ultisil™ Alk-C18	1.5-10	320	120	12	L1
		Ultisil™ Plus C18	2.0-8.0	160	130	10	L1
		Ultisil™ XB-CN	1.5-9.0	320	120	7	L10
		Ultisil™ XB-NH ₂	2.0-8.0	320	120	4	L8
		Ultisil™ SiO ₂	2.0-8.0	320	120	/	L3
		Ultisil™ Diol	2.0-8.0	320	120	2.5	L20
		Ultisil™ XB-SCX	2.0-8.0	320	120	C 12%, S 2.2%	/
		Ultisil™ XB-SCX	2.0-8.0	90	300	/	/
		Ultisil™ XB-SAX	2.0-8.0	320	120	C:7.5%	L14
		Ultisil™ XB-SAX	2.0-8.0	90	300	/	L14
		Xtimate® C18	1.0-12.5	320	120	14	L1
		Xtimate® C8	1.0-12.5	320	120	10	L7
		Xtimate® C4	1.0-12.5	320	120	8	L26
		Xtimate® CN	1.0-12.5	320	120	7	L10
		Xtimate® Phenyl-Hexyl	1.0-12.5	320	120	12	L11
		Xtimate® Polar RP	1.5-12.5	320	120	16	L1
		Topsil® C18	2-9.5	260	150	12	L1
		Topsil® C8	2-9.5	260	150	10	L7
		Topsil® Phenyl-Hexyl	2-9.5	260	150	12%	L11
		Topsil® NH ₂	2.0-8.0	260	150	3	L8
		Topsil® CN	2.0-8.0	260	150	6	L10

	Topsil® Silica	2.0-8.0	260	150	/	L3
	Ultisil™ UHPLC XB-C18	1.5-10	320	120	17	L1
	Ultisil™ UHPLC XB-C8	1.5-10	320	120	12	L7
	Xtimate® UHPLC C18	1.0-12.5	320	120	14	L1
	Ultisil™ UHPLC AQ-C18	1.5-10	320	120	12	L1
	Ultisil™ UHPLC LP-C18	0.5-8	320	120	10	L1
	Ultisil™ UHPLC XB-Phenyl	1.5-10	320	120	13	L11
	Ultisil™ UHPLC SiO ₂	2.0-8.0	320	120	/	L3
	Ultisil™ UHPLC Polar RP	1.5-10	320	120	18	L1
		Xtimate® Sugar-Ca	5~9	8% crosslinking degree	No Pore	L19
		Xtimate® Sugar-H	1~3	8% crosslinking degree	No Pore	
		Xtimate® PS/DVB	1.0-14.0	450	300	
		Xtimate® SEC-120	2 - 7.5, 8.5-9.5 at short time	Protein Molecular Weight Range 500-150,000	120	Water-soluble Molecular Range 500-25,000
		Xtimate® SEC-300	2 - 7.5, 8.5-9.5 at short time	Protein Molecular Weight Range 5,000 - 1,250,000	300	Water-soluble Molecular Range 1,000-100,000
		Xtimate® SEC-700	2 - 7.5, 8.5-9.5 at short time	Protein Molecular Weight Range 15,000 - 5,000,000	700	Water-soluble Molecular Range 2,500-500,000
		Xtimate® SEC-1000	2 - 7.5, 8.5-9.5 at short time	Protein Molecular Weight Range 50,000 - 7,500,000	1000	Water-soluble Molecular Range 5,000-1,500,000
	Boltimate™ C18[Core-shell]	2-8.5	120	90	9	L1
	Boltimate™ Phenyl-Hexyl [Core-shell]	2-8.5	120	90	7	L11
	Boltimate™ EXT-C18 [Core-shell]	1.5-12.5	120	90	8	L1
	Boltimate™ EXT-PFP [Core-shell]	1.5-10.0	120	90	5	L43
	Boltimate™ HILIC [Core-shell]	2.0-8.5	120	90	-	L3
	Ultisil™ Cellu-D/Cellu-DR	2.0-9.0	120	320	-	L40
	Ultisil™ Cellu-J/Cellu-JR	2.0-9.0	120	320	-	L80
	Ultisil™ Amy-D/Amy-DR	2.0-9.0	120	320	-	L51
	Ultisil™ Amy-S/Amy-SR	2.0-9.0	120	320	-	-

Welch column can substitute

Ultisil XB-C18 can substitute:

Symmetry C18	Symmetry shield RP C18	
Luna C18	Luna C18[2]	Discovery C18
Hypersil BDS C18	Alltima C18	Zobax Eclipse C18
BetaBasic C18	Platinum EPS C18	Betasil C18
Inertsil ODS-2	Inertsil ODS-3	Supelcosil LC-18-DB
Kromasil 100A C18	HyPURITY C18	

Ultisil AQ-C18 can substitute:

Aquasil C18	Atlantis C18	
Zorbax SB-AQ C18	Synergi Hydro-RP C18	
HydroBond PS C18	HydroBond AQ C18	
Ultra Aqueous C18	Prontosil C18 AQ	
YMC-Pack ODS-AQ	Elite Sino Chrom ODS-BP	

Ultisil XB-C8 can substitute:

Symmetry C8	Luna C8	Luna C8[2]
Discovery C8	Hypersil BDS C8	Alltima C8
Zorbax Eclipse XDB C8	BetaBasic C8	Platinum EPS C8
Betasil C8	Inertsil C8	Inertsil C8-3
Supercosil LC-8-DB	Kromasil 100A C8	HyPURITY C8
YMC-Pack C8-AM	Adsorbosphere HS C8	Develosil C8
Cosmosil C8-MS	Nucleosil 100 C8 HD	

Other Ultisil Columns: XB-CN, XB-Phenyl, XB-CN, SiO₂ and Polar RP can replace the most of the same type columns of other brands.

Xtimate® (wide pH range) can substitute:

Waters	Xterra series
	Xbridge series
Agilent	Extend series
Phenomenex	Gemini series

Chiral Column Reference Table

Company	Brand	Coated Normal Phase					Coated Reversed Phase			
		Cellu-D	Cellu-J	Amy-D	Amy-S	Cellu-D/R	Cellu-J/R	Amy-D/R	Amy-S/R	
Welch	Ultisil									
Daicel	Chiralcel	OD-H	OJ-H			OD-RH	OJ-RH			
	Chiraldak			AD-H	AS-H			AS-RH	AS-RH	

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