

August 22, 2005

Randy Leathers Culligan Of The Piedmont

Phone: 864-295-9500

E-mail: randy@waterprofessionals.com

RE: Resin Analyses

Dear Randy:

This letter is in reference to the nine resin samples we received from you. Comparisons are made with ResinTech® equivalents.

Cation Exchange Resin

Cation #1-5 chemical and physical properties are degraded, cation #5 being the worst.

Anion Exchange Resin

Anion #1-4 have good capacities but the physical properties show signs of degradation.

Recommendations

Cation #1-4 still have some useful life, a thorough backwashing is recommended. Cation #5 is most damaged and should be replaced immediately.

Anion #1-4 have some useful life but a thorough backwashing is recommended.

We are available for any further assistance with your ion exchange applications including troubleshooting, review of regeneration procedures or new resin recommendations.

If you have any questions or need additional information, please call your local ResinTech® technical representative, Phil Adams at 678-461-8830.

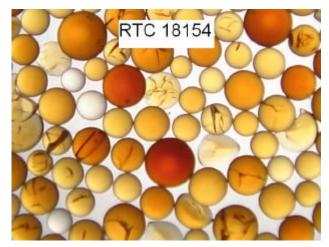
Sincerely yours,

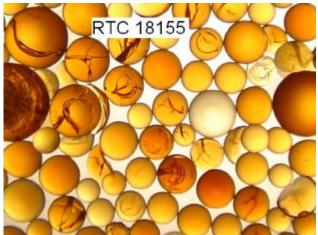
Robert Rittershausen

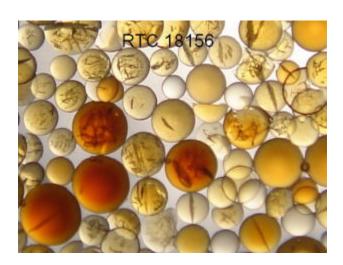
Director of Analytical Services

robert Withen











West Berlin, NJ 08091-9243 ph (856) 768-9600 fx (856) 768-9601 ixresin@resintech.com www.resintech.com

RESIN ANALYSIS

Customer: Culligan (Piedmont)

Date: 08/15/05

1.45 1.30 1.49 1.30 1.30 1.49 1.30 1.30 1.49 1.30	ResinTech Equivalent Resintech Sample Number RTG PARAMETER (RES tal Capacity - Na or CI Form	3MP C-18148 SINTECH SPEC V 1.45 0.48 40.6% 0.50	1.30 1.30 51 - 58	WBMP RTC-18149 IN ITALICS BELOW TO 1.49 0.11 40.4% 0.47	1.30	
WBMP WBMP RTC-18149	PARAMETER (RES tal Capacity - Na or CI Form in meq/mL it Splitting Capacity in meq/mL eated Total Capacity in meq/mL eated Salt Splitting Capacity in meq/mL eated Sal	C-18148 SINTECH SPEC V 1.45 0.48 40.6% 0.50	1.30 1.30 51 - 58	RTC-18149 IN ITALICS BELOW TO 1.49 0.11 40.4% 0.47	1.30	
PARAMETER (RESINTECH SPEC VALUE IS INCLUDED IN ITALICS BELOW TO THE RIGHT) tal Capacity - Na or CI Form	PARAMETER (RES tal Capacity - Na or CI Form	C-18148 SINTECH SPEC V 1.45 0.48 40.6% 0.50	1.30 1.30 51 - 58	RTC-18149 IN ITALICS BELOW TO 1.49 0.11 40.4% 0.47	1.30	
total Capacity - Na or Cl Form in meq/mL 1.45 1.30 1.49 1.30 alt Splitting Capacity in meq/mL 2.48 0.11 1.49 1.30 1.30 1.49 1.30 1.30 1.49 1.30 1.30 1.49 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30	otal Capacity - Na or CI Form in meq/mL alt Splitting Capacity in meq/mL reated Total Capacity in meq/mL reated Salt Splitting Capacity in meq/mL	1.45 0.48 40.6% 0.50	1.30 1.30 51 - 58	1.49 0.11 40.4%	1.30	
1.45	in meq/mL alt Splitting Capacity in meq/mL eated Total Capacity in meq/mL eated Salt Splitting Capacity in meq/mL eeted Salt Splitting Capacity in meq/mL eemical Moisture (%), Na or CI Form fective Particle Size (mm) (This is a visual estimation) ead integrity (percent) Whole perfect Whole cracked Broken	0.48 40.6% 0.50	1.30 51 - 58	0.11 40.4% 0.47	1.30	
ant Splitting Capacity in med/mL reated Total Capacity in med/mL reated Salt Splitting Capacity in med/mL remical Moisture (%), Na or CI Form 40.6% 51 - 58 40.4% 51 - 58 40.47 Feetive Particle Size (mm) (This is a visual estimation) Whole perfect Whole perfect 87 Min. 90% Whole cracked 5 Max. 10% Broken 8 Approximately 3% carbon beads are present. There was a slight orange throw when treated with caustic/brine. COMMENTS	in meq/mL reated Total Capacity in meq/mL reated Salt Splitting Capacity in meq/mL reated Salt Splitting Capacity in meq/mL remical Moisture (%), Na or CI Form remical Moisture (%), Na or CI Form	0.48 40.6% 0.50	1.30 51 - 58	0.11 40.4% 0.47	1.30	
reated Total Capacity in med/mL eated Salt Splitting Capacity in med/mL remical Moisture (%), Na or CI Form 40.6% 51 - 58 40.4% 51 - 58 40.4% 51 - 58 40.4% 51 - 58 40.4% 51 - 58 40.4% 51 - 58 40.4% 51 - 58 40.4% 51 - 58 40.4% 51 - 58 40.4% 51 - 58 40.4% 51 - 58 40.4% 51 - 58 40.4% 51 - 58 Fective Particle Size (mm) (This is a visual estimation) Whole perfect 87 Min. 90% Whole perfect 5 Max. 10% 6 Max. 10% 6 Max. 10% Broken 8 Approximately 3% carbon beads are present. There was a slight orange throw when treated with caustic/brine. COMMENTS	eated Total Capacity in meq/mL eated Salt Splitting Capacity in meq/mL eemical Moisture (%), Na or CI Form fective Particle Size (mm) (This is a visual estimation) ead integrity (percent) Whole perfect Whole cracked Broken App	40.6% 0.50 87 5	51 - 58	0.47		
in meq/mL 40.6% 51 - 58 40.4% 51 -	in meq/mL nemical Moisture (%), Na or CI Form Iffective Particle Size (mm) (This is a visual estimation) ead integrity (percent) Whole perfect Whole cracked Broken App	0.50 87 5		0.47	51 - 58	
### Approximately 3% carbon beads are present. #### Approximately 3% carbon beads are present. ###################################	ead integrity (percent) Whole perfect Whole cracked Broken	0.50 87 5		0.47	51 - 58	
### Approximately 3% carbon beads are present. Approximately 3% carbon beads are present. COMMENTS Approximately 3% carbon beads when treated with caustic/brine. COMMENTS Approximately 3% to 1.58 Approximately 3% to 1.58 Approximately 3% to 1.58 Approximately 3% to 1.58 Approximately 3% carbon beads are present. There was a slight orange throw when treated with caustic/brine.	ead integrity (percent) Whole perfect Whole cracked Broken	0.50 87 5		0.47	51 - 58	
(This is a visual estimation) O.50 O.47 Pead integrity (percent) Whole perfect Whole cracked Source Max. 10% Broken Approximately 3% carbon beads are present. There was a slight orange throw when treated with caustic/brine. COMMENTS O.47 Min. 90% 81 Max. 10% 6 Max. 10% 13 Max. 5% Approximately 3% carbon beads are present. There was a slight orange throw when treated with caustic/brine.	(This is a visual estimation) ead integrity (percent) Whole perfect Whole cracked Broken App	87 5	Min. 90%	1		
(This is a visual estimation) O.50 O.47 Pead integrity (percent) Whole perfect 87 Min. 90% Whole cracked 5 Max. 10% Broken 8 Approximately 3% carbon beads are present. There was a slight orange throw when treated with caustic/brine. COMMENTS O.47 Min. 90% 81 Min. 90% 6 Max. 10% 6 Max. 10% Approximately 3% carbon beads are present. There was a slight orange throw when treated with caustic/brine.	(This is a visual estimation) ead integrity (percent) Whole perfect Whole cracked Broken App	87 5	Min. 90%	1		
Whole perfect 87 Min. 90% 81 Min. 90% Whole cracked 5 Max. 10% 6 Max. 10% Broken 8 Max. 5% 13 Max. 5% Approximately 3% carbon beads are present. There was a slight orange throw when treated with caustic/brine. COMMENTS Min. 90% 81 Min. 90% 6 Max. 10% 6 Max. 10	ead integrity (percent) Whole perfect Whole cracked Broken App	87 5	Min. 90%	1		
Approximately 3% carbon beads are present. There was a slight orange throw when treated with caustic/brine. COMMENTS Approximately 3% carbon beads are present. There was a slight orange throw when treated with caustic/brine.	Broken App			81	Min. 90%	
Approximately 3% carbon beads are present. There was a slight orange throw when treated with caustic/brine. COMMENTS Approximately 3% carbon beads are present. There was a slight orange throw when treated with caustic/brine.	Арр	•			Max. 10%	
are present. There was a slight orange throw when treated with caustic/brine. COMMENTS are present. There was a slight orange throw when treated with caustic/brine.		8	Max. 5%	13	Max. 5%	
are present. There was a slight orange throw when treated with caustic/brine. COMMENTS are present. There was a slight orange throw when treated with caustic/brine.				1		
when treated with caustic/brine. when treated with caustic/brine.	ale				carbon beads	
	whe			_	•	
		Resin is slightly dirty.		Resin is slightly dirt	Resin is slightly dirty.	

NOTE: All capacity and moisture percentage values correspond to the sodium form for cation resins and to the chloride form for anion resins unless otherwise noted.



West Berlin, NJ 08091-9243 ph (856) 768-9600 fx (856) 768-9601 ixresin@resintech.com www.resintech.com

RESIN ANALYSIS

Customer: Culligan (Piedmont)

Date: 08/15/05

esin@resintech.com www.resintech.co	om				
Sample Designation	1		1		
Sample Identifier	Anion #3		Anion #4		
ResinTech Equivalent	WBMP		WBMP	P	
Resintech Sample Number	RTC-18150		RTC-18151		
PARAMETER		/ALUE IS INCLUDED	IN ITALICS BELOW TO	THE RIGHT)	
al Capacity - Na or Cl Form					
in meq/mL t Splitting Capacity	1.45	1.30	1.44	1.30	
in meg/mL	0.19		0.16		
ated Total Capacity in meg/mL	7	1.30		1.30	
ated Salt Splitting Capacity	+	1.50	+	1.50	
in meg/mL					
mical Moisture (%), Na or Cl Form	40.6%	51 - 58	41.2%	51 - 58	
	 _				
ective Particle Size (mm)	T	1	1	İ	
(This is a visual estimation)	0.61	<u> </u>	0.39		
ad integrity (percent)			1		
Whole perfect	94	Min. 90%	10	Min. 90%	
Whole cracked	3	Max. 10%	86	Max. 10%	
Broken	3	Max. 5%	2	Max. 5%	
		-			
	There was a slight when treated with c	_	There was a slight when treated with o	_	
OOMMATAITO	Approximately 4% are present.	Approximately 4% carbon beads are present.		carbon beads	
COMMENTS			Tiny beads.		

NOTE: All capacity and moisture percentage values correspond to the sodium form for cation resins and to the chloride form for anion resins unless otherwise noted.



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RESIN ANALYSIS

Customer: Culligan (Piedmont)

Date: 08/15/05

	-		_	
Sample Designation				
Sample Identifier	Cation #1		Cation #2	
ResinTech Equivalent	CG8		CG8	
Resintech Sample Number	RTC-18152		RTC-18153	
	10102		KIO IOIOO	
PARAMETER	(RESINTECH SPEC V	VALUE IS INCLUDED	IN ITALICS BELOW TO	THE RIGHT)
Total Capacity - Na or Cl Form				
in meq/mL	1.85	1.90	1.91	1.90
Salt Splitting Capacity in meg/mL		1.90		1.90
Treated Total Capacity		7.00		7.00
in meg/mL		1.90		1.90
Treated Salt Splitting Capacity in meg/mL		1.90		1.90
iii iiieq/iiic	l	1.30		1.30
		+		
Chemical Moisture (%), Na or Cl Form	51.2%	40 - 47	49.5%	40 - 47
	31.276	40 - 47	49.5%	40 - 47
Effective Particle Size (mm)	0.52		0.64	
(This is a visual estimation)	0.53		0.61	
Bead integrity (percent)				
Whole perfect	73	Min. 85%	79	Min. 85%
Whole cracked	13	Max. 15%	14	Max. 15%
Broken	14	Max. 7%	7	Max. 7%
COMMENTS				
NOTE	: All capacity and moisture pe		and to the sodium form for sunless otherwise noted.	



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RESIN ANALYSIS

Customer: Culligan (Piedmont)

Date: 08/15/05

ResinTech Equivalent Resintech Sample Number R PARAMETER (RE al Capacity - Na or CI Form in meq/mL Splitting Capacity in meq/mL ated Total Capacity in meq/mL ated Salt Splitting Capacity in meq/mL ated Salt Splitting Capacity in meq/mL ated Moisture (%), Na or CI Form	Eation #3 EG8 ETC-18154 ESINTECH SPEC V 1.98 47.0%	1.90 1.90 1.90 1.90 1.90 1.90	Cation #4 CG8 RTC-18155 ITALICS BELOW TO 1.98	1.90 1.90 1.90 1.90 1.90
ResinTech Equivalent Resintech Sample Number PARAMETER (RE al Capacity - Na or CI Form in meq/mL Splitting Capacity in meq/mL ated Total Capacity in meq/mL ated Salt Splitting Capacity in meq/mL ated Solt Splitting Capacity in meq/mL ated Solt Splitting Capacity in meq/mL ated Salt Splitting Capacity in meq/mL	EG8 ETC-18154 ESINTECH SPEC V 1.98	1.90 1.90 1.90 1.90	CG8 RTC-18155 ITALICS BELOW TO 1.98	1.90 1.90 1.90 1.90
Resintech Sample Number PARAMETER IN PARAMETER RE RE RE RE RE RE RE RE RE	ESINTECH SPEC V	1.90 1.90 1.90 1.90	RTC-18155 ITALICS BELOW TO 1.98	1.90 1.90 1.90 1.90
PARAMETER (RE tal Capacity - Na or CI Form in meq/mL It Splitting Capacity in meq/mL eated Total Capacity in meq/mL eated Salt Splitting Capacity in meq/mL eated Salt Splitting Capacity eated Moisture (%), Na or CI Form	ESINTECH SPEC V	1.90 1.90 1.90 1.90	1.98	1.90 1.90 1.90 1.90
in meq/mL it Splitting Capacity in meq/mL sated Total Capacity in meq/mL sated Salt Splitting Capacity in meq/mL sated Moisture (%), Na or CI Form	1.98	1.90 1.90 1.90 1.90	1.98	1.90 1.90 1.90 1.90
al Capacity - Na or Cl Form in meq/mL t Splitting Capacity in meq/mL ated Total Capacity in meq/mL ated Salt Splitting Capacity in meq/mL ated Salt Splitting Capacity in meq/mL	1.98	1.90 1.90 1.90 1.90	1.98	1.90 1.90 1.90 1.90
in meq/mL splitting Capacity in meq/mL ated Total Capacity in meq/mL ated Salt Splitting Capacity in meq/mL ated Salt Splitting Capacity in meq/mL		1.90 1.90 1.90		1.90 1.90 1.90
is Splitting Capacity in meq/mL ated Total Capacity in meq/mL ated Salt Splitting Capacity in meq/mL mical Moisture (%), Na or CI Form		1.90 1.90 1.90		1.90 1.90 1.90
ated Total Capacity in meq/mL ated Salt Splitting Capacity in meq/mL mical Moisture (%), Na or CI Form ective Particle Size (mm)	47.0%	1.90	47.0%	1.90
in meq/mL ated Salt Splitting Capacity in meq/mL mical Moisture (%), Na or CI Form	47.0%	1.90	47.0%	1.90
in meq/mL emical Moisture (%), Na or Cl Form ective Particle Size (mm)	47.0%		47.0%	
emical Moisture (%), Na or Cl Form ective Particle Size (mm)	47.0%		47.0%	
ective Particle Size (mm)	47.0%	40 - 47	47.0%	40 47
	47.0%	40 - 47	47.0%	
				70 71
(This is a visual estimation)		1		
	0.53		0.53	
ad integrity (percent) Whole perfect	78	Min. 85%	84	Min. 85%
Whole cracked	14	Max. 15%	7	Max. 15%
Broken	8	Max. 7%	9	Max. 7%
COMMENTS		INICAL TYP	,	Wax. 176

NOTE: All capacity and moisture percentage values correspond to the sodium form for cation resins and to the chloride form for anion resins unless otherwise noted.



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RESIN ANALYSIS

Customer: Culligan (Piedmont)

Date: 08/15/05

-				
Sample Designation				
Sample Identifier	Cation #5			
ResinTech Equivalent	CG8			
Resintech Sample Number	RTC-18156			
•	•			
PARAMETER	(RESINTECH SPEC \	ALUE IS INCLUDED IN	LITALICS BELOW TO) THE RIGHT)
Total Capacity - Na or Cl Form	(NEONVIEON OF EO V	TREAL TO INVOLUDED IN	THALIOO BLLOW TO	THE RIGHTY
in meq/mL	1.75	1.90		
Salt Splitting Capacity		4.00		
in meq/mL Treated Total Capacity		1.90		
in meg/mL		1.90		
Treated Salt Splitting Capacity		1.90		
in meg/mL		1.90		
Chemical Moisture (%), Na or Cl Form		 		
Chemical Moisture (%), Na or Ci Form	54.0%	40 - 47		
<u></u>	J4.U /0	40 - 47		
Effective Particle Size (mm)				
(This is a visual estimation)	0.53			
Bood intogrity (norsent)				
Bead integrity (percent)	74	Min 050/		
Whole perfect	71	Min. 85%		
Whole cracked	18	Max. 15%		
Broken	11	Max. 7%		
COMMENTS				
COMMENTS				
NOTE	: All capacity and moisture pe	rcentage values correspond	to the sodium form for	
	cation resins and to the chlo			