

## Unical-C

Weeping Water, NE  
Plant #1

Unical-C is a ground *calcium carbonate* product processed in Weeping Water, NE from mined high calcium limestone with minimum calcium content of 38%



## Particle Size Measurement -- Laser Diffraction

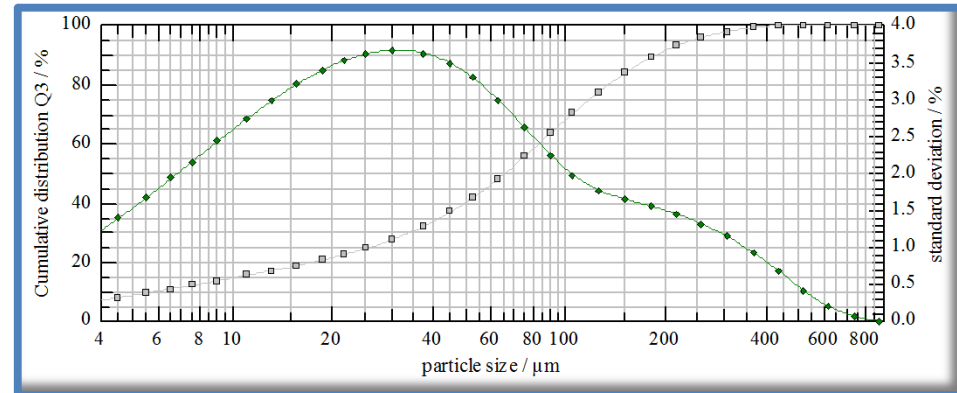
Average Particle Size = **65.62** microns

Ave particle size: half of the particles are above and half are below this point on the "S" shaped cumulative distribution graph.

**% Ca** 38.53  
**%CaCO<sub>3</sub>** 96.33

Typical Analyses		
Magnesium (Mg)	0.272	%
Silicon (Si)	0.73	%
Silica (SiO <sub>2</sub> )	1.56	%
Iron (Fe)	0.142	%
Sodium (Na)	0.025	%
Potassium (K)	0.024	%
Sulfur (S)	0.878	%
Manganese (Mn)	0.019	%
Phosphorus (P)	0.008	%
Chloride (Cl)	0.002	%
Chromium (Cr)	6	ppm
Aluminum (Al)	456	ppm
Boron (B)	14	ppm
Barium (Ba)	15	ppm
Lead (Pb)	< 5	ppm
Nickel (Ni)	< 5	ppm
Cobalt (Co)	< 5	ppm
Copper (Cu)	32	ppm
Zinc (Zn)	145	ppm
Cadmium (Cd)	< 5	ppm
Iodine (I)	3	ppm
Arsenic (As)	< 5	ppm
Beryllium (Be)	< 5	ppm
Selenium (Se)	0.56	ppm
Mercury (Hg)	<0.050	ppm
Vanadium (V)	< 5	ppm
Molybdenum (Mo)	14	ppm
Fluorine (F)	< 1	ppm
Bismuth (Bi)	< 5	ppm
Antimony (Sb)	< 5	ppm

% Acid Solubility	
Average	<b>76.28</b>
Maximum	<b>80.51</b>
Minimum	<b>73.00</b>
H <sub>2</sub> O	< 0.5%
Bulk Density (lbs./cu.ft.)	
Loose:	<b>81</b>
Packed:	<b>97</b>



$\mu\text{m}$  = micron (1/1000 of a millimeter)

Particle Distribution--U.S.Screen Comparison			
50 X Minus 200 mesh product			
Micron Size	U.S.Screen	% Retained	% Passing
500	<b>35</b>	0.2	99.8
300	<b>50</b>	2.3	97.5
212	<b>70</b>	5.0	92.5
180	<b>80</b>	3.6	88.9
150	<b>100</b>	5.2	83.7
75	<b>200</b>	28.2	55.5
45	<b>325</b>	18.7	36.8
38	<b>400</b>	4.5	32.4
25	<b>500</b>	8.1	24.3
13	<b>1000</b>	7.4	16.9
6	<b>2300</b>	6.2	10.7
2.5	<b>Pan</b>	10.6	
		100.0	

cumulative distribution (laser diffraction)			
Microns	% Passing	Microns	% Passing
875	100	52.5	41.65
735	99.99	45	36.81
615	99.94	37.5	32.02
515	99.85	30	27.35
435	99.64	25	24.34
365	98.98	21.5	22.26
305	97.74	18.5	20.46
255	95.70	15.5	18.59
215	92.86	13	16.86
180	88.89	11	15.30
150	83.65	9	13.49
125	77.23	7.5	11.89
105	70.16	6.5	10.67
90	63.47	5.5	9.29
75	55.50	4.5	7.75
62.5	48.00		