

## Unical-P

Weeping Water, NE  
Plant #1

Unical-P is a powdered ground limestone product processed in Weeping Water, NE from mined high calcium limestone with minimum calcium content of 33%



## Particle Size Measurement -- Laser Diffraction

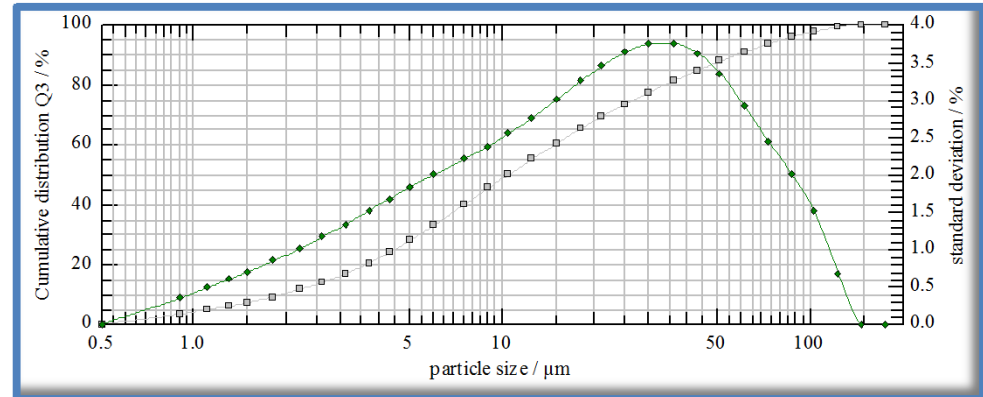
Average Particle Size = **10.65** microns

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

**% Ca** 37.74  
**%CaCO<sub>3</sub>** 94.35

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>80.53</b>
Maximum	<b>83.91</b>
Minimum	<b>76.93</b>
H <sub>2</sub> O	< 0.5%
Bulk Density (lbs./cu.ft.)	
Loose:	<b>62</b>
Packed:	<b>74</b>



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

Particle Distribution--U.S. Screen Comparison			
Minus 200 mesh product			
Micron Size	U.S. Screen	% Retained	% Passing
300	<b>50</b>	0.0	100.0
212	<b>70</b>	0.0	100.0
180	<b>80</b>	0.0	100.0
150	<b>100</b>	0.0	100.0
75	<b>200</b>	6.3	93.7
45	<b>325</b>	8.5	85.3
38	<b>400</b>	3.3	82.0
25	<b>500</b>	8.7	73.3
13	<b>1000</b>	18.3	55.0
6	<b>2300</b>	22.1	32.9
2.5	<b>Pan</b>	32.9	
		100.0	

cumulative distribution (laser diffraction)			
Microns	% Passing	Microns	% Passing
175	100	10.5	49.85
147	100	9	45.25
123	98.90	7.5	39.69
103	97.44	6	32.90
87	95.69	5	27.70
73	93.40	4.3	23.77
61	90.68	3.7	20.28
51	87.63	3.1	16.74
43	84.48	2.6	13.80
36	81.00	2.2	11.43
30	77.24	1.8	9.02
25	73.25	1.5	7.17
21	69.12	1.3	5.89
18	65.19	1.1	4.56
15	60.18	0.9	3.16
12.5	54.96		