

Unical-UF

Alden, IA

Unical-UF is a finely ground $CaCO_3$ product processed in Alden from quarried high calcium limestone with minimum calcium content of 38%



Particle Size Measurement -- Laser Diffraction

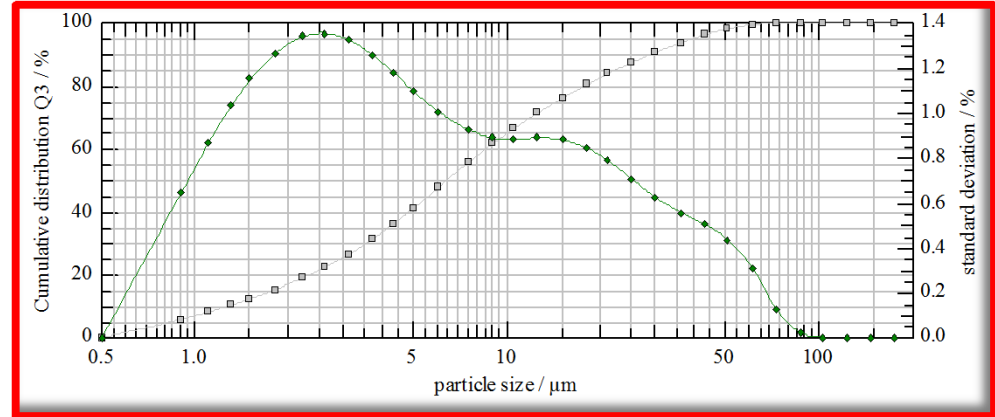
Average Particle Size = **6.45** microns

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

% Ca 38.52
% $CaCO_3$ 96.30

Typical Analyses		
Magnesium (Mg)	0.118	%
Silicon (Si)	0.07	%
Silica (SiO_2)	0.14	%
Iron (Fe)	0.145	%
Sodium (Na)	0.021	%
Potassium (K)	0.009	%
Sulfur (S)	0.888	%
Manganese (Mn)	0.015	%
Phosphorus (P)	0.007	%
Chloride (Cl)	0.004	%
Chromium (Cr)	7	ppm
Aluminum (Al)	107	ppm
Boron (B)	10	ppm
Barium (Ba)	< 5	ppm
Lead (Pb)	< 5	ppm
Nickel (Ni)	< 5	ppm
Cobalt (Co)	< 5	ppm
Copper (Cu)	29	ppm
Zinc (Zn)	118	ppm
Cadmium (Cd)	< 5	ppm
Iodine (I)	2	ppm
Arsenic (As)	< 5	ppm
Beryllium (Be)	< 5	ppm
Selenium (Se)	0.252	ppm
Mercury (Hg)	< 0.050	ppm
Vanadium (V)	< 5	ppm
Molybdenum (Mo)	< 5	ppm
Fluorine (F)	< 1	ppm
Bismuth (Bi)	< 5	ppm
Antimony (Sb)	< 5	ppm

% Acid Solubility	
Average	69.35
Maximum	72.07
Minimum	65.26
H ₂ O	< 0.5%
Bulk Density (lbs./cu.ft.)	
Loose:	52
Packed:	61



μm = micron (1/1000 of a millimeter)

Particle Distribution--U.S. Screen Comparison			
Minus 325 mesh product			
Micron Size	U.S. Screen	% Retained	% Passing
300	50	0.0	100.0
212	70	0.0	100.0
180	80	0.0	100.0
150	100	0.0	100.0
75	200	0.2	99.8
45	325	3.2	96.6
38	400	2.2	94.4
25	500	7.1	87.3
13	1000	20.9	66.4
6	2300	18.8	47.6
2.5	Pan	47.6	
		100.0	

cumulative distribution (laser diffraction)			
Microns	% Passing	Microns	% Passing
175	100	10.5	66.37
147	100	9	61.68
123	100	7.5	55.61
103	100	6	47.61
87	100	5	41.11
73	99.81	4.3	36.01
61	99.19	3.7	31.34
51	97.96	3.1	26.47
43	96.15	2.6	22.28
36	93.67	2.2	18.82
30	90.67	1.8	15.18
25	87.26	1.5	12.28
21	83.68	1.3	10.21
18	80.30	1.1	8.00
15	75.98	0.9	5.61
12.5	71.27		