

Unical-P (cc90)

Savage, MN

Unical-P is a finely ground *calcium carbonate* product processed in Savage from mined high calcium limestone with minimum calcium content of 38%



Particle Size Measurement -- Laser Diffraction

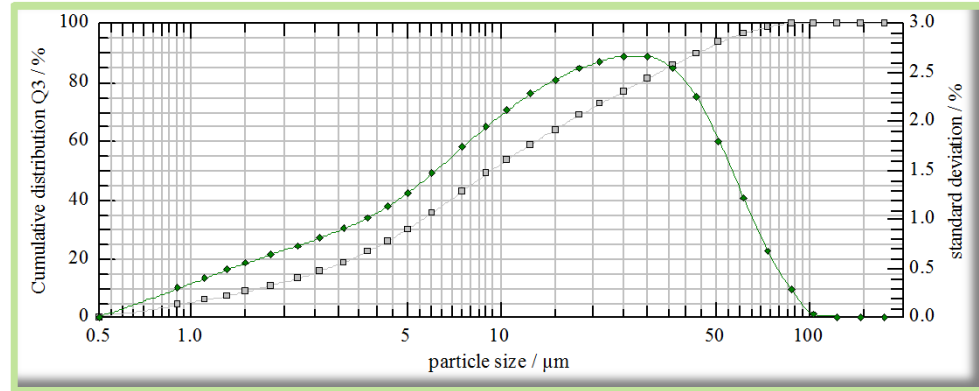
Average Particle Size = **9.45** microns

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

% Ca 38.41
%CaCO₃ 96.03

| Typical Analyses | | |
|----------------------------|---------|-----|
| Magnesium (Mg) | 0.869 | % |
| Silicon (Si) | 0.55 | % |
| Silica (SiO ₂) | 1.18 | % |
| Iron (Fe) | 0.279 | % |
| Sodium (Na) | 0.019 | % |
| Potassium (K) | 0.016 | % |
| Sulfur (S) | 0.935 | % |
| Manganese (Mn) | 0.031 | % |
| Phosphorus (P) | 0.005 | % |
| Chloride (Cl) | 0.001 | % |
| Chromium (Cr) | < 5 | ppm |
| Aluminum (Al) | 186 | ppm |
| Boron (B) | 10 | ppm |
| Barium (Ba) | < 5 | ppm |
| Lead (Pb) | 8 | ppm |
| Nickel (Ni) | < 5 | ppm |
| Cobalt (Co) | < 5 | ppm |
| Copper (Cu) | 14 | ppm |
| Zinc (Zn) | 72 | ppm |
| Cadmium (Cd) | < 5 | ppm |
| Iodine (I) | 3 | ppm |
| Arsenic (As) | < 5 | ppm |
| Beryllium (Be) | < 5 | ppm |
| Selenium (Se) | 0.202 | 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 | 72.72 |
| Maximum | 77.09 |
| Minimum | 69.21 |
| H ₂ O | < 0.5% |
| Bulk Density (lbs./cu.ft.) | |
| Loose: | 64 |
| Packed: | 75 |



μm = micron (1/1000 of a millimeter)

| Particle Distribution--U.S.Screen Comparison | | | |
|--|-------------|------------|-----------|
| Minus 200 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 | 1.3 | 98.7 |
| 45 | 325 | 8.2 | 90.5 |
| 38 | 400 | 3.9 | 86.7 |
| 25 | 500 | 9.9 | 76.8 |
| 13 | 1000 | 18.1 | 58.7 |
| 6 | 2300 | 23.2 | 35.5 |
| 2.5 | Pan | 35.5 | |
| | | 100.0 | |

| cumulative distribution (laser diffraction) | | | |
|---|-----------|---------|-----------|
| Microns | % Passing | Microns | % Passing |
| 175 | 100 | 10.5 | 53.47 |
| 147 | 100 | 9 | 48.69 |
| 123 | 100 | 7.5 | 42.78 |
| 103 | 100 | 6 | 35.49 |
| 87 | 99.68 | 5 | 29.92 |
| 73 | 98.57 | 4.3 | 25.76 |
| 61 | 96.39 | 3.7 | 22.13 |
| 51 | 93.25 | 3.1 | 18.51 |
| 43 | 89.62 | 2.6 | 15.52 |
| 36 | 85.48 | 2.2 | 13.11 |
| 30 | 81.15 | 1.8 | 10.62 |
| 25 | 76.76 | 1.5 | 8.63 |
| 21 | 72.47 | 1.3 | 7.21 |
| 18 | 68.59 | 1.1 | 5.67 |
| 15 | 63.77 | 0.9 | 4.00 |
| 12.5 | 58.65 | | |