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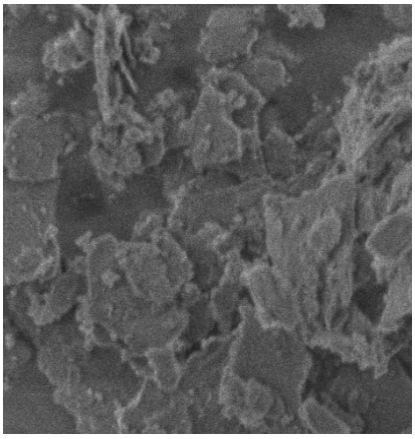
# NAKPRO ARC5

## Outlook

Talc is a metamorphic rock which has a layered structure, which means if you start slicing the talc rock along its plate plane, we can separate individual layer of mineral which is an absolute thin section not more than some micro meter thick. So when you look at it talc particles through an electron microscope you can observe these plates



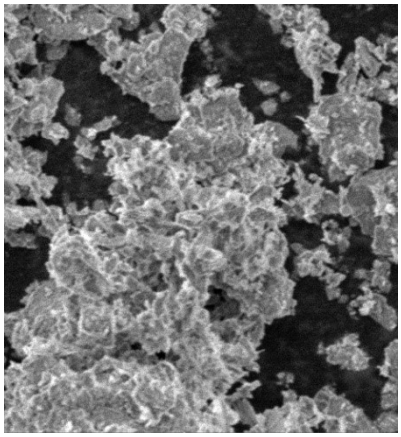
SEM MAG: 1.65 Kx 20 Microns Scale

## Nano Particle Generation and Surface Modification

At NGF we have created manufacturing processes to modify these plates on Nano scale and engineer them to the desired shape according to the Industrial need and demands. We can form the shapes from rhombus (Uniform) to needle like shapes (High Aspect Ratio).

## NAKPRO ARC5

It is a rhombus shaped Talc which has a very low oil absorption levels, As compared to similar products which has more than 50 % particles below 1 micron levels. This has been achieved because of its unique particle structure, which we have engineered.



SEM MAG: 15.06 Kx 1 Microns Scale

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# NAKPRO ARC5

## Physical Properties

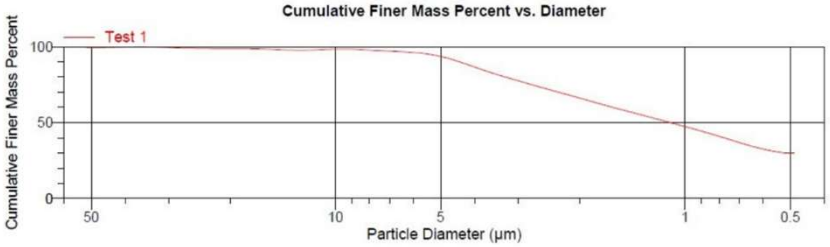
| | |
|---|---|
| Appearance | Free Flowing Dry Powder |
| Retention on 500# | NIL |
| Specific Gravity | 2.70 |
| Moisture | 0.10 % |
| Bulk Density | 0.40 +/- 3 |
| Oil Absorption | 40 +/- 3 ML |
| Refractive Index | 1.57 |
| LOI | < 5.0% |
| | |
| SiO2 | 50 - 63% |
| MgO | 20 - 31% |
| CaO | 5 - 1% |
| Al2O3 | 10 – 0.5% |
| Fe2O3 | <0.1% |

## Particle Size Analysis

**Combined Report**

**Report by Size Table**

| Low Diameter (µm) | Cumulative Mass Finer (Percent) | Low Diameter (µm) | Cumulative Mass Finer (Percent) | Low Diameter (µm) | Cumulative Mass Finer (Percent) | Low Diameter (µm) | Cumulative Mass Finer (Percent) |
|---|---|---|---|---|---|---|---|
| 50.00 | 99.9 | 15.00 | 98.1 | 6.000 | 96.2 | 1.000 | 47.4 |
| 45.00 | 99.9 | 13.00 | 97.7 | 5.000 | 93.5 | 0.800 | 41.0 |
| 40.00 | 99.7 | 12.00 | 97.7 | 4.000 | 86.6 | 0.600 | 32.6 |
| 30.00 | 99.4 | 10.00 | 98.3 | 3.000 | 77.5 | 0.500 | 30.0 |
| 25.00 | 98.9 | 8.000 | 97.8 | 2.000 | 66.1 | | |
| 20.00 | 98.7 | 7.000 | 97.0 | 1.500 | 58.2 | | |




Sedigraph III V1.03
Strokes Sedimentation and Beer's Law

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NextGeneration FILLERS

# NAKPRO ARC5

## Technical Information

| | |
|---|---|
| Physical Appearance | Free Flowing White Powder |
| Microscopic Structure | Crystalline, granular, stalactitic, concretionary, massive, rhombohedral. |
| Tenacity | Trigonal |
| Streak | White |
| Optical Properties | Biaxal |

## Usage

Nakpro is a versatile product which can be used by Polymer Compounding Industry, Cosmetic Industry as well as Paint and Coating Industry.

## Benefits of Using NAKPRO

**Better Dispersion Rate** – As NAKPRO particles are rhombus in shape, they incorporate themselves faster in the compound / formulation. This saves time as the dispersion rate is faster than normal 10 micron Talc.

**UV Stabilizer** – NAKPRO has an excellent UV absorption rates which makes it a very good UV Stabilizer. Secondly it is a natural mineral, which makes it ideal to replace the Heavy Metal compounds which are being used as UV Stabilizer.

**Works as Anti Settling Agent** – NAKPRO has more than 47% particles under the range of 1 Microns and more than 30% particles are below 0.5 Microns, these high concentration of Nano Particles helps in keeping the pigment suspended in the formulation.

**Dirt Pickup Resistance** – As the presence of Nano Particles are high in NAKPRO, its particles has very low surface energy. Hence after the application or compounding its particles usually occupy the outer layer. Since its shape is uniform the surface of the product also has an even texture. This smooth surface does not allow dirt to settle on to its surface.