

NAKSIL 10

Technical Information

| | |
|----------------------------------|---|
| Physical Appearance | Free Flowing White Powder |
| Usage with TiO ₂ | Suggestive Use for 1 Kg TiO ₂ (700gms of TiO ₂ + 300gms – 550gms of NAKSIL, depending on the results) |
| Microscopic Structure | Crystalline, granular, stalactitic, concretionary, massive, rhombohedral. |
| Tenacity | Trigonal |
| Streak | White |
| Optical Properties | Biaxal |
| Refractive Index | $n_{\alpha} = 1.640 - 1.660$ $n_{\beta} = 1.649 - 1.670$ $n_{\gamma} = 1.700 - 1.710$ |

Usage

Kindly add NAKSIL during the addition of extenders in the formulation, which gives it enough time to disperse evenly throughout the formulation. NAKSIL usually replaces TiO₂ in 70%:30% ratio of TiO₂ : NAKSIL. As there are variety of formulation, one has to tailor made the usage content, the additional quantity of NAKSIL will increase the whiteness and gloss.

Secondly NAKSIL is specifically developed for Pigments Paints where pigments are added. The unique feature of this extender is that it morphs the pigment colour and gives deeper colours. One can reduce the Pigment Consumption by using NAKSIL10

Benefits of Using NAKSIL

Better Tinting and Strength – As NAKSIL particles keeps pigments suspended and de-agglomerated which maximizes development of tinting.

Imparts Gloss to Paint Film – NAKSIL particles are specially modified and altered in such a way that it imparts glossy sheen to the paint film, better than any clays.

Reduces Pigment Consumption – NAKSIL morphs the pigment colour thus reduces the usage of pigment than other extenders of such kind..

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Concept

NAKSIL works on the following concept...

The effect of opacity is the sum of three physical phenomena, refraction, reflection and diffraction of light. The Diffraction is related to the size of the waves of light in motion. When a wave of light passes next to a particle, it tends to bend after this passage.

Taking the above theory into consideration NAKSIL was developed, so that when particles of light refract from the particles of NAKSIL they are bend to the desired levels which are close to that of TiO₂.

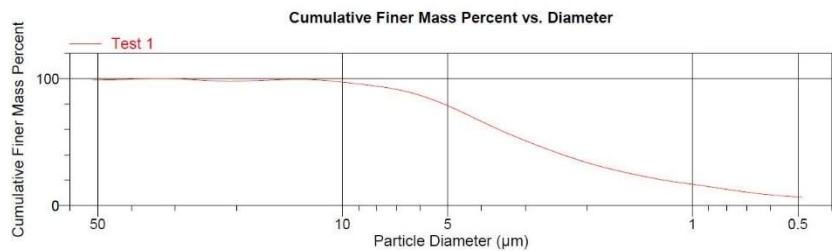
The interaction of NAKSIL particle and that of TiO₂ is of high importance. As in the Paint formulation the hiding is achieved from interaction of the Fillers, Binder and TiO₂. NAKSIL helps in reducing the difference in RI of the Pigment and Extenders which becomes evident due to binders.

NAKSIL helps reducing the TiO₂ usage because it reduces the crowding of the large particle extenders, which in turn reduces the crowding of pigment particles into voids. This leads to an improved pigment packing in the overall paint formulation.

Physical Properties

| | |
|----------------------|----------------|
| L | 97.25 – 98.75 |
| a | -1.50 – + 1.50 |
| B | -2.50 – + 2.50 |
| Ph Extract | 8 |
| Residue on 500 # | 0.002% Max |
| Volatile Matter | 0.05% |
| Water Demand | 90 ML/100Gms |
| Water Soluble Matter | 0.05% |

Particle Size Analysis



| Mass Distribution Arithmetic Statistics | | | |
|---|---------------|----------------|---------------|
| Median | | 2.925 | |
| Selected Percentiles | | Selected Sizes | |
| Percent Finer | Diameter (µm) | Diameter (µm) | Percent Finer |
| 98.0 | 10.53 | 15.00 | 99.3 |
| 97.0 | 9.730 | 12.00 | 99.2 |
| 90.0 | 6.580 | 10.00 | 97.4 |
| 50.0 | 2.925 | 8.000 | 94.2 |
| 10.0 | 0.669 | 2.000 | 33.9 |

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