

GREEN AS WHITE CAN BE



NeoGen™ 2000

- High performance TiO₂ extender
- Replacement of up to 20% titanium dioxide in paint without any loss of opacity or other key properties

www.imerys-kaolin.com



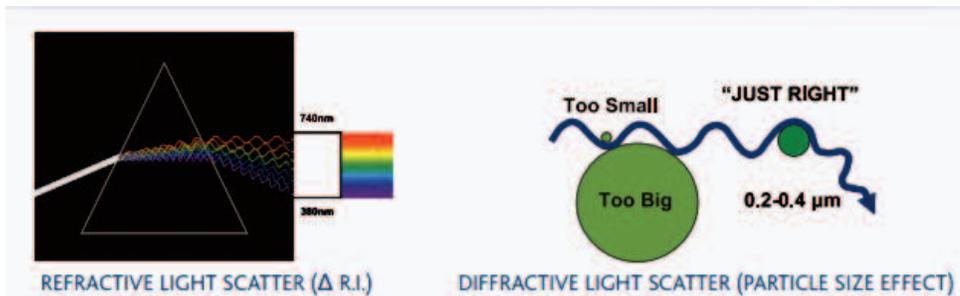
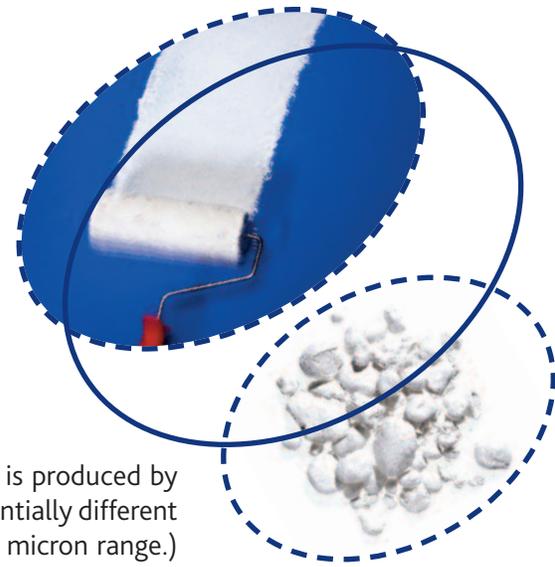
ADD IMERYS KAOLIN TO REDUCE YOUR TiO₂

NeoGen 2000 is the premium product for TiO₂ extension in the paint and coatings industry. Compared to conventional calcined kaolin, NeoGen 2000 provides improved whiteness, better opacity and whiter tint strength, while improving TiO₂ extension and reducing costs.

TITANIUM DIOXIDE FOR WHITENESS

Titanium dioxide (TiO₂) is the most effective pigment for whiteness. Whiteness is produced by scattering light in the visible spectrum using a refractive index (R.I.) which is substantially different than the media in which it is used and an optimal particle size (in the 0.2 to 0.4 micron range.)

Because the supply of TiO₂ continues to be a problem, these same principles can also be applied to extenders, allowing them to complement or extend the TiO₂. The use of extenders must be carefully fitted to the formulation design of the paint or coating, as not every extender will work effectively in every system. ImerysKaolin provides several solutions to extend your TiO₂.



KAOLIN CLAY EXTENDERS FOR LOW PVC COATINGS

Kaolin clay extenders function primarily as spacers and, in a mixed system, they help to maintain the separation of dispersed TiO₂. Kaolin clays mechanically prevent TiO₂ from aggregating and causing loss of efficacy. Hydrous kaolin clays are also effective as TiO₂ extenders and can help with gloss control, rheology and hold-out. Imerys products: Kaopaque and Hydrite.

CALCINED CLAY EXTENDERS FOR COATINGS

Engineered calcined clay extenders form complex structures that allow micro-void air to be introduced to the paint film. Air has a very different refractive index to the binder vehicle making calcined clay extenders powerful light scatterers that produce a clean, white paint. This forms the basis of our NeoGen 2000 technology it produces films of higher whiteness in comparison to traditional calcined clay products. Additional refinements in oil absorption control allow the effects to be obtained at lower PVC's. (Effective TiO₂ extension with calcined clay occurs at or above CPVC.) Imerys products: NeoGen, PoleStar and Glomax.

PHYSICAL CHARACTERISTICS (ORANGE INDICATES BEST SOLUTION)

	Mean Diameter (microns)	Oil Absorption (g/100g)	PVC Range	Recommended System
Kaolin and Hydrous Kaolin Extenders: Traditional TiO₂ extenders for low PVC Coatings				
Kaopaque 10S	0.5	45	ALL	Water
Hydrite RS/RSA	0.45	43	ALL	Water
Calcined Kaolin Extenders Premium TiO₂ extenders for decorative coatings				
NeoGen 2000	0.7	120	Above CPVC	Water
PoleStar 400	0.7	100	Above CPVC	Water
Glomax LL	1.4	75	Above CPVC	Water
Glomax JDF	0.6	45	All	Water/Solvent/Powder

CRITICAL PIGMENT VOLUME CONCENTRATION (CPVC) | PRODUCT SELECTION FOR TiO₂ EXTENSION

Imerys offers a range of products which are effective TiO₂ extension solutions. The extension mechanism is very different depending on position relative to CPVC. The choice is also dependent on the nature of the paint system, with products fitting differently in water based, solvent based and powder coating systems.

Contact our mineral experts in TiO₂ extension – let us teach your team how to reduce your dependence on TiO₂.

BELOW CPVC

Imerys Kaolin TiO ₂ Extenders for Below CPVC	LATEX	SOLVENT	POWDER
Glomax JDF	●	●	●
Kaopaque 10S	●		
Hydrite RS/RSA	●		

TiO₂ EXTENSION BELOW CPVC ($\lambda < 1.0$)

Below CPVC, TiO₂ extension by minerals occurs by spacing effects. Using Imerys minerals, you can replace up to 25% TiO₂ in a semigloss system while maintaining contrast ratio, whiteness and gloss. Tint strength is maintained at up to 15% replacement while offering significant cost savings.



ABOVE CPVC

Imerys Kaolin TiO ₂ Extenders for Above CPVC	LATEX	SOLVENT	POWDER
NeoGen 2000	●		
PoleStar 400	●		
Glomax LL	●		

PVC VINYL ACRYLIC LATEX

Formulation	Conventional Calcined Kaolin	NeoGen 2000
%PVC	57	52
% TiO ₂ Reduction	0	27.1
Pigment System		
TiO ₂ (R-706)	181	131.9
Conventional Calcined Kaolin	181	-
NeoGen 2000	-	145
Diafil	17.5	20.5
#10 White	-	51.2
Estimated Cost Savings	-	Up to 20%

TiO₂ EXTENSION ABOVE CPVC ($\lambda < 1.0$)

Above CPVC, TiO₂ extension occurs by: a) "engineering" the size and frequency of light scattering sites; b) spacing effects.

MORE INFORMATION

Imerys Kaolin

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