

minex[®]

FUNCTIONAL FILLERS FOR
PAINTS AND COATINGS



THE UNIVERSAL SOLUTIONSM

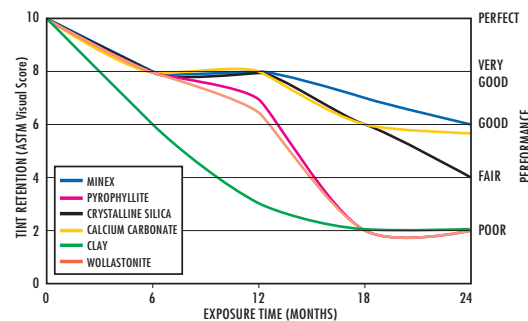
The Starting Point for Exterior and Interior Paint

MINEX[®] offers optimized color development, tint retention and durability to deliver proven performance in premium decorative paints. When incorporated into paints and coatings, MINEX extenders will help protect the resin system from direct sunlight UV exposure for improved binder stability and longer service life. In real-time exposure tests under a variety of climatic conditions, MINEX outperforms other extender minerals, providing superior resistance to fading, chalking, cracking, and loss of gloss. MINEX also delivers excellent chemical resistance against a variety of acids and bases commonly found in residential and industrial environments and atmospheric pollutants.



Actual South Florida cedar exposure panels formulated with MINEX Functional Fillers and Extenders.

Tint Retention of Exterior Flat Grade Fillers in South Florida
100% Acrylic Exterior @ 52.1% PVC, tinted 1% with Phthalo Blue



Recognized for its low tint strength, MINEX allows maximum development of pastels and sharp deep tone colors with a minimum of expensive colorants. Paints made with MINEX remain remarkably clean, minimizing dirt collection and mildew growth compared to calcium carbonate, talc, clay, wollastonite, and other extender minerals. MINEX is not hygroscopic and does not retain the surface moisture essential for the accumulation of dirt and the propagation of bacteria and mildew. It produces more durable

dry film properties for excellent scrubability, abrasion and burnish resistance.

MINEX is also proven effective in decorative masonry coatings formulated with styrene acrylic resins and vinyl acetate vinyl chloride-ethylene emulsion technology. Its unique surface chemistry inhibits soluble ion migration associated with concrete and cementitious substrates for a lower efflorescence. Ultra low free-iron content eliminates iron staining and contributes to binder stability.





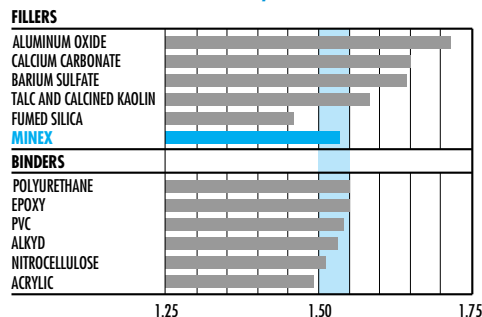
Clarity and Performance in Clear Coatings

MINEX® offers a uniquely occurring combination of optical and physical properties which are ideal for clear and transparent systems requiring improved durability, light stability, and resistance to moisture. Derived from a naturally occurring anhydrous sodium potassium aluminosilicate, MINEX delivers performance unmatched even by higher cost synthetic fillers. Optimized particle shape and hardness properties provide flattening, abrasion resistance, and ease of dispersion. MINEX will add value in a range of transparent, scratch-resistant applications such as coatings for wood floors, furniture, automotive finishes and topcoats, and electronic displays.



Clear coatings containing, left to right: No Filler, MINEX, Calcium Carbonate, Baryte.

Average Refractive Index of Mineral Fillers and Binder Systems



In clear films, MINEX provides matting in most resin types while maintaining its transparency and anti-settling characteristics. Finer MINEX grades are also available for use in high gloss applications. The refractive index of MINEX is nearly identical to most commonly used clear binders, including polyurethanes, epoxies, acrylics, alkyds, and nitrocellulose. Wood and furniture formulations can be loaded to 15-20% solids with no noticeable haze to improve abrasion and scratch resistance.

The optical properties of MINEX are also well suited for the growing application of UV/EB and IR curing systems. Virtually transparent to ultraviolet light, MINEX does not absorb or reflect radiation even at the highest loading levels. Quantitative analysis of absorption spectra confirms that systems containing MINEX show lower absorption than the barefoot system in the 300nm to 400nm curing range. MINEX filled systems do not inhibit the curing process, and can actually promote a more thorough cure. MINEX has been proven especially effective in radiation cured clear and semi-transparent OEM coatings on wood flooring and furniture, metal office furniture, and consumer products and appliances.

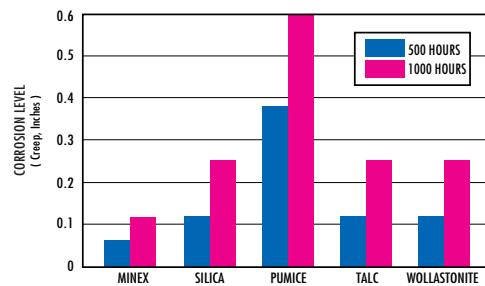




Durability in the Harshest Environments

MINEX[®] meets the challenge in a wide range of industrial coating applications requiring extended service life and demanding coating performance. It excels in a variety of coating systems designed to protect steel and concrete from corrosion resulting from industrial and marine exposures. MINEX also provides industrial formulators with a reliable option in primers, base coats and topcoats in low silica formulations. The low oil absorption of MINEX minimizes viscosity gain in low viscosity spray applications and also offers effective primer holdout. It also possesses hardness properties which maintain desirable scratch and abrasion resistance in coatings for increased service life.

Corrosion Resistance Comparison of Metal Solvent-based Alkyd Primers Subjected to Salt Fog Exposure



MINEX is an excellent choice for industrial applications alone, or in combination with corrosion inhibitive pigments. The pH of MINEX helps retard and slow the corrosion process in metal primers and coatings. The corrosion resistance of MINEX has been demonstrated in both accelerated tests and actual field service.

Exceptional exterior durability and resistance to the adverse effects of weather and sunlight exposure are also key benefits of MINEX in industrial top coat applications. Coatings made with MINEX provide reliable gloss and color retention, chalk resistance, and film integrity. Grades covering a range of particle sizes and distributions are available to accommodate finishes ranging from glossy to matte. Compared to barytes, the lower density of MINEX offers economic advantages and improved handling due to reduced settling characteristics.

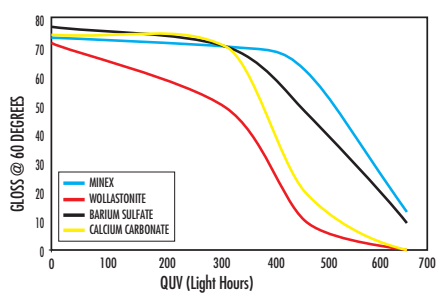




Discover the Advantages in Powder Coating

MINEX[®] delivers premium performance and proven value to a wide range of baked and radiation cured powder coating systems. Its low refractive index provides operating transparency while effectively maximizing the performance of coloring pigments. Fine MINEX grades are ideally suited for high gloss coatings while coarser grades are appropriate for gloss control and to add texture. Additionally, the superior performance of MINEX in exterior service makes it the preferred choice for color critical and structurally demanding applications such as garden furniture and equipment, fencing, architectural components and consumer goods. MINEX has been proven to retard the effects of UV attack, minimizing changes in gloss, color, and physical integrity of coatings over prolonged exterior exposure.

Gloss Retention of 400 mesh fillers in QUV Exposure



Slightly harder than traditionally used powder fillers, MINEX improves film hardness and scratch resistance. Loadings as low as five to ten percent will increase overall hardness and wear resistance of coatings without adversely affecting grinding, mixing or extrusion equipment. Ideal applications include OEM commercial, industrial, and automotive primers and topcoats where abrasion and scratch resistance are essential, and extended durability and weatherability are equated with product quality.

With low oil absorption and a net negative surface charge, MINEX is easily incorporated during the initial premix and grinding steps. The higher specific heat capacity of MINEX produces coatings with excellent coverage and leveling. Pellet flow is superior to equivalently sized barium sulfate, calcium carbonate, and wollastonite fillers for smoother finishes. MINEX filled systems also produce lower specific gravity powders for better, more economical coverage on all powder coated substrates.



Powder coatings subjected to QUV exposure and containing, left to right: Calcium Carbonate, Baryte, Wollastonite, MINEX.

MINEX[®] FUNCTIONAL
FILLERS AND
EXTENDERS

The Intelligent Choice

As reduction of organic solvents and volatile organic compounds (VOCs) continues to be an important industry objective, formulators are discovering MINEX[®] to be a valuable tool. A unique combination of surface chemistry and particle shape, MINEX can be universally applied in waterborne, high solids and powder coating formulations to produce high performance, environmentally friendly coatings.

The surface chemistry of MINEX accelerates dispersion times in both aqueous and solvent-based systems with little or no polymeric dispersant requirements. In oil, alkyd and solvent-based systems MINEX provides the low viscosity needed to meet high solids and low VOC requirements. Low in oil absorption, MINEX is also effective in high solids and powder coating applications where matting is desired and low viscosity must be maintained. Formulators will find that MINEX delivers higher CPVC levels than calcium carbonate, talc, clay, wollastonite and other extender minerals. And when a silica deficient alternative is required, MINEX offers the best combination of performance properties to most closely duplicate the performance of traditional silicate fillers.

MINEX functional fillers are the product of on-going analytical testing, applications research and process improvement. Produced in an ISO and QIP certified environment, each MINEX production facility represents a multi-million dollar commitment to quality, consistency and reliable supply. Specified worldwide, MINEX functional fillers are readily available through a global network of distributors, agents and company operated facilities.



ContactUs@brilliantadditions.com
www.brilliantadditions.com