

PAINTING TO PRESERVE, PROTECT, AND BEAUTIFY EXTERIOR WOOD (The case for 100% acrylic latex versus alkyd oil-based coating systems)

Wood used exterior in the deep south region of the United States is subject to the degrading effects of extreme heat, high humidity, and exposure to strong ultraviolet light. These weather conditions erode coatings, exposing bare wood to premature degradation.

In order to fully protect wood for an extended period of time with minimal maintenance, a paint system, i.e., primer and finish, must offer the following features. Failure to do so could lead to costly and unsightly damage.

Adhesion: The basic ability of the coating to adhere to the substrate for the full life of the coating without blistering, peeling, flaking, etc. Loss of adhesion exposes the undercoat or bare wood surface to the direct effects of weathering.

Flexibility: The ability of the coating to conform to the natural movement, expansion, and contraction of the wood surface. The cracking or splitting of a non-flexible film is often referred to as "grain cracking." The cracks follow the contours of the wood grain. Cracks and splits in the coating allow moisture and mildew spores into the wood and can lead to flaking and disfiguration by mildew.

Breathability: The ability of a coating system to allow natural moisture within the wood to escape as moisture vapor, without causing the coating to blister or lose adhesion. Moisture which can not escape leads to loss of adhesion of the coating, exposing bare wood to the detrimental effects of weathering.

Mildew Resistance: The ability of a coating to retard or resist the formation of fungal growth on the surface of the coating. Mildew spores may be carried to the surface by outside forces. Mildew is not only unsightly but also difficult to remove. It can lead to the ultimate decomposition of the coating itself.

To remain aesthetic, coatings for exterior wood must be able to offer:

Color Retention: The ability of the coating to retain its original color for an extended period of time.

Chalk Resistance: The ability of the coating to remain stable and resist premature erosion of the film, resulting in a powdery formation on the surface.

Gloss Retention: The ability of the coating to retain much of its original sheen for an extended period of time.

ONLY top-quality 100% acrylic latex primers and paints offer all of the above features. Alkyd oil-based primers and paints grow brittle with age, causing them to lose flexibility and ultimately lose adhesion. Alkyd oil-based primers and paints are non-breathable, limiting their life over naturally moisture-containing wood surfaces. The oils in alkyd oil-based primers and paints are natural organic materials which serve as mildew food and actually promote mildew growth. In general, alkyd oil-based paints have poor color and gloss retention when compared to top-quality 100% acrylic paints and often exhibit poor chalk resistance.

In summary, top-quality 100% acrylic latex primers and paints are clearly more effective than alkyd oil-based paints in all critical areas of product performance: wood protection, long-term eye appeal, stability, and reduced maintenance.