

### **“YELLOWING”**

All paint products are formulated with specific substrates and niche markets in mind. Paints have certain benefits and limitations that could be described as their strong points and weaker points when compared to other products. “Yellowing”, also described as an amber discoloration, is an unfortunate characteristic of alkyd paints, regardless of the manufacturer. There are give or take twenty raw materials in a gallon of alkyd paint, depending of the specific product. Each raw material provides certain properties in the performance of paint; flow and leveling, opacity, abrasion resistance, gloss, and drying, to name a few. Every formulation is a compromise of raw materials and performance levels. The alkyd resin itself is the principle component that lends itself to the yellowing process. However, it is this alkyd resin that also provides hardness, abrasion and impact resistance, blocking resistance, and translucency of gloss.

Alkyds have been the pinnacle of enamels since their introduction. Acrylic latex enamels have only recently gained limited acceptance by painters in the last decade with the development of tougher acrylic resin technology, and more specifically the last five years with the national institution of VOC (volatile organic compounds) restrictions on alkyds which forced manufacturers to re-formulate the majority of their alkyd products. This law was enacted September 13, 1999 on all architectural and industrial paints; however, the paint industry saw it coming for years. Prior to September of 1999, Flex Bon Paints interior alkyd enamels had some of the least and slowest yellowing products of any competitor in our market, and with the VOC compliant formulations they are still leaders today. Acrylic latex enamels have substantially improved in performance. There are still properties such as flow and leveling, hardness, and adhesion that acrylic latex enamels may fall short. It is with these features in mind that a contractor, builder, and paint supplier would submit these products in good faith.

Some may propose the question. “Is it negligent to submit, approve, or apply an alkyd enamel on a given project?” The answer is “NO, no more than it would be to allow the use of acrylic latex enamel.” There are hundreds of formulas available in the market, with varying degrees of performance. Depending on which feature you wish to evaluate, there is no one product specification. Although non-yellowing, someone may question the submittal of an acrylic latex enamel, because it does not have the same gloss level, or not as hard a finish, or not as “smooth looking” as an alkyd enamel. Does this disqualify the product or prove it inferior? No, these are just some of the limitations of the product. Epoxies are the best coatings for corrosion control; however, they fade and chalk at a rate far faster than acrylic latex. The acrylic latex would have minimal ferrous corrosion control. Does this fading and chalking make the epoxy an incorrect specification? Again, there are compromises associated with every product. Yellowing is an undesirable characteristic of alkyds that can be somewhat controlled. Yellowing is not a deficiency in the alkyd formulation.

It should also be acknowledged that the yellowing problem is exacerbated by lack of lighting, high heat, and exposure to ammonia, strong acids or various cleaning agents. One or combinations of the above are not uncommon in most commercial or households settings, especially those of seasonal residents who close up their homes for extended periods. It should also be noted that yellowing is reversible; minimize the contributing elements and you minimize the yellowing.