

TECHNICAL BULLETIN
Mitsubishi Chemical America, Inc.
7/12/04

LUMIFLON Color and Gloss Range

Paints manufactured with the Lumiflon (FEVE) resin system, such as Megaflon - Coraflon / Bonnflon, have several advantages when compared to the older PVDF fluorocarbon paint resin systems, such as Kynar / Hylar.

In the Kynar systems the paint is made by dispersing the fluoropolymer in a resin. For good durability the recommended ratio is 70% Kynar to 30% resin. In the Lumiflon resin system the Carbon - Fluorine bonds are actually part of the resin itself. The thermoplastic Kynar resin will "remelt" under high temperatures and pressures while the Lumiflon resin is a thermoset system that will not "remelt" once it is correctly cured. These differences provide the Lumiflon system with the following advantages:

- 1) Higher Gloss finishes are available: When the Kynar particles are dispersed into the resin they act as a matting agent reducing the gloss for Kynar paint finishes to 30 or lower. Since in the Lumiflon system the C-F bond is part of the resin there is no matting effect. This allows the Lumiflon system to offer gloss values as high as 70 to 80, depending on the pigments needed for a specific color.
- 2) Brighter colors: The 70% Kynar dispersion is a milky / cloudy solution while the Lumiflon resin is clear. This allows for brighter more vivid colors when using Lumiflon based paints. It should be noted that even with the Lumiflon paints there is a limit to the "Brightness" that can be achieved using durable pigments. Matching printed samples or paint samples, that use dyes and pigments that were not selected with the required high durability of the fluoropolymer paints in mind, may not be possible. Printed materials do not offer prolonged color and chalk warranties. Only pigments that have been tested and have been shown to meet the durability requirements as detailed in AAMA2605-02 are selected for use.
- 3) The Lumiflon based paints have superior recoat ability properties when compared to the Kynar based paints. Kynar based paints are cured by fusing the paint film with high temperatures, requiring an oven. The Lumiflon resin is chemically cured allowing for touch up or the painting of ancillary surfaces with paint designed to cure at room temperature.
- 4) The cured Lumiflon based paint is harder than the thermoplastic Kynar paints and is therefore more mar resistant, making it a better choice for surfaces close to high traffic areas.

When comparing Lumiflon and Kynar based paint systems 99% of the Kynar colors can be matched with Lumiflon, the reverse can not be said. Lumiflon can be matted down to match the gloss level of Kynar, the reverse can not be said. The clear Lumiflon resin allows the true color of the selected pigments, the milky Kynar system clouds the appearance of the pigments. In side by side testing Lumiflon equals or surpasses Kynar with respect to performance and durability.