TECHNICAL BULLETIN

PRODUCTS WITH FLUORESCENT PIGMENTATIONS

Fluorescent colors appear brighter by utilizing a greater portion of visible light spectrum and lower wavelengths compared to conventional colors. For example, a clean, bright conventional color can reflect a maximum of 90% of a color present in the spectrum; a fluorescent color can reflect as much as 200-300%.

The fluorescent effect is achieved using special pigments available for coating applications. These pigments are typically transparent organic resin particles containing dyes which are capable of fluorescing while in a solid state.

Due to the unique nature of this chemistry, there are several important distinctions from conventional colors that potential users should be aware of:

Film Opacity- Fluorescent paints are low in opacity. The substrate color as well as final dry film thickness can influence the final appearance of the paint film.

- The use of a white base coat will improve the overall brightness and reduce/eliminate the effect of color variation caused by the substrate.
- Dry film thickness should be reasonably consistent to minimize color variation.

Lightfastness- The UV durability of fluorescent colors are generally lower than similar hue conventional colors. There are a variety of factors that affect the overall lightfastness of a fluorescent color including the final paint formulation, color type, dry film thickness, etc.

Fluorescent pigments are **not** stable when exposed to direct sunlight but are generally stable to indoor light and outdoor conditions other than direct sunlight.

- If prolonged outdoor exposure is the intended use, actual outdoor exposure tests should be conducted to confirm satisfactory results. Accelerated testing, such as QUV or Xenon weatherometers, will give comparative indications of lightfastness; but there is no exact correlation between accelerated weathering and actual outdoor weathering.
- Lightfastness may be somewhat improved by applying a suitably formulated clear overcoat. Clear coat systems should also be tested to ensure satisfactory results for UV durability.
- TCI will make no claims or warranties associated with the lightfastness of fluorescent pigmentations in their products.

Color Match- Fluorescent pigments are subject to some lot to lot variation in color due to natural variation from the pigment manufacturer. The variation is typically less than 1 DE. Final film thickness will affect the color due to the low opacity nature of the pigments.

- Customers should expect a good visual color match in commercial applications where minor color differences due to film thickness variation and lot to lot pigment variation will be minimized.
- Fluorescent colors are not recommended for critical color match or tight color tolerance applications.

TCI offers a variety of colors and chemistry options. Please refer to the TCI Technical Department for additional information.

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