

### Incorporation of Special Effect Pigments into powder coatings

#### INTRODUCTION

There are many special effect appearances available in powder coatings. Some include luster pearl effects, gold metallic, or sparkles just to name a few. These special effects are achieved using different types of pigments such as aluminum, mica, or gold bronze. There are a few different ways to incorporate these special effect pigments into powder coatings. Each method has unique benefits and drawbacks.

#### EXTRUDED/PROCESSED

This method incorporates metallic flake through the extruder. The metallic flakes are completely surrounded by resin and are fully incorporated into the coating. This provides a uniform appearance and the most consistent application. It will also reclaim well. However, the range and types of appearances are limited with this method. The processing bends metallic flakes and completely destroys mica flakes, causing them to lose their effect. It is also difficult to get sparkle appearances in light colors because the pigment covers up the metallic. This process works best with deep shade colors that have some transparency.

#### DRY BLEND

This method incorporates effect pigments by blending them into a powder coating. This can produce bright metallic shades and high sparkle. The drawback with dry blends are in the application; they can be more difficult to achieve a consistent appearance. Since the effect pigment is not surrounded by resin or attached to the powder coating particles, it can sometimes give a splotchy, or cloudy appearance. The effect pigment is also more likely to collect at the tip and “spitting” may occur. Dry blends require a more experienced applicator and generally do not reclaim well due to separation of the effect pigment and the powder particles. They tend to work best with veins, and with some mica appearances.

#### BONDING

This method involves blending the effect pigment with a powder coating, then heating up the mixture until it is soft so the effect pigment sticks and attaches to the powder particle. By attaching the effect pigment to the powder, the appearance and application are more consistent. Bonded products can also be reclaimed. Bonding can be used for almost all appearances. However, it can be hard to get extremely bright, high sparkle and some veins with bonding.