

## 3.7 Pearlescents

### 3.7.1 Mica + Titanium Dioxide

Mica flakes coated with titanium dioxide (**P01 - P09**) exhibit strong scattering and weak absorption, producing their colors (e.g., gold, blue, green, orange, red, violet, or bright white) via thin-film interference. Some have scattering coefficients exceeding  $100 \text{ mm}^{-1}$  in the near infrared. Over white, they appear white and have very high NIR reflectance (0.88 - 0.90); over black, they achieve their named colors and have high NIR reflectance (0.35 - 0.54). The NIR reflectance of a pearlescent film over an opaque white background can exceed that of the background.

### 3.7.2 Mica + Titanium Dioxide + Iron Oxide

Mica flakes coated with titanium dioxide and iron oxide (**P10 - P14**) are in most cases similar to mica flakes coated with only titanium dioxide, but are more absorbing, less scattering, darker, and somewhat less reflecting in the NIR. The exception is rich bronze P13, which has very high absorption and would not make a suitable cool pigment.

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