EXPLANATION OF SPECTROPHOTOMETRIC DATA

The spectrophotometer is coupled with a computer, which allows colors to be measured under controlled conditions, and compared to an established standard, resulting in a numerical expression defining the relationship of the batch to the standard. While there is a variety of color difference formulations in use, the CIELAB is most commonly used in the plastics and polymer industry because it offers relatively good visual correlation over a wide range of color space.

SPECTROPHOTOMETER CONFIGURATION FOR COA

Type: Datacolor
Illuminate: D65 Daylight
Observer: 10 degree, large area view, specular included

EXPLANATION OF SPECTROPHOTOMETRIC VALUES

- **DL**
  - Lightness/Darkness Difference (Delta L*)
  - The shade of gray (black/white)
  - + = Lighter
  - - = Darker

- **Da**
  - Red/Green Color Difference (Delta a*)
  - + = Hue is redder (or less green than)
  - - = Hue is greener (or less red than)

- **Db**
  - Yellow/Blue Color Difference (Delta b*)
  - + = Hue is yellower (or less blue than)
  - - = Hue is bluer (or less yellow than)

- **DC**
  - Difference Attributed to Chromaticity (Delta C*)
  - + = More saturated than (more color intensity)
  - - = Less saturated than (less color intensity)

- **DH**
  - Difference Due to Hue Only (Delta H*)

- **DE**
  - Total Color Difference (Delta E*)

DE is a mathematical calculation utilizing the DL*, Da* and Db*, and therefore, used alone this number can be misleading as to the true color of a material. We recommend that our customers visually determine if the color of the product is acceptable.
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