



QUALITY CONTROL PROCEDURE FOR CKR INDUSTRIES, INC.

I. Dispersion

Procedure: Prepare samples of both the standard & trial concentrate according to the following letdown procedure:

- (1) Place 200g of specified PVC base* on a 12" 2-roll mill heated to $300^{\circ}\text{F} \pm 10^{\circ}$ (roll temp.) and band. Carefully add 6 grams of concentrate, making sure none falls through the band.
- (2) Work batch continually, on the slow roll, for three minutes. Cut off sheet and lay flat.
- (3) Examine sheet for streaks and/or undispersed concentrate.
- (4) If color is not completely dispersed, reject the batch and adjust plant formula card. If dispersion is acceptable, evaluate color.

II. Color Evaluation

- Procedure:
- (1) Using prepared sheets press out standard vs. sample side by side. Use Carver compression press heated to 350°F . Remove and water cool.
 - (2) Visually examine panel for chroma and hue variations.
 - (3) Read the panels on a spectrophotometer taking an average of three readings on both the standard and sample. Readings should be taken using CIE L*A*B* D65. Cause for rejection is a variable of greater than 0.5 on a*b* or L* coordinate.
 - (4) Blend dispersion into a consistent 2000 pound lot and report quality control results to CKR Industries.

III. Particle Size

Apparatus: Sieves - 1/4"
Balance

- Precedure: (1) Weight 400g of dispersion into appropriate sieve size.
- (2) Shake dispersion through screen and determine percentage retained.
- (3) Reject the material if 1% or greater is retained on the indicated screen.

* PVC base is to be supplied by Chardon Rubber. Use appropriate base as indicated by the product code.

70 duro

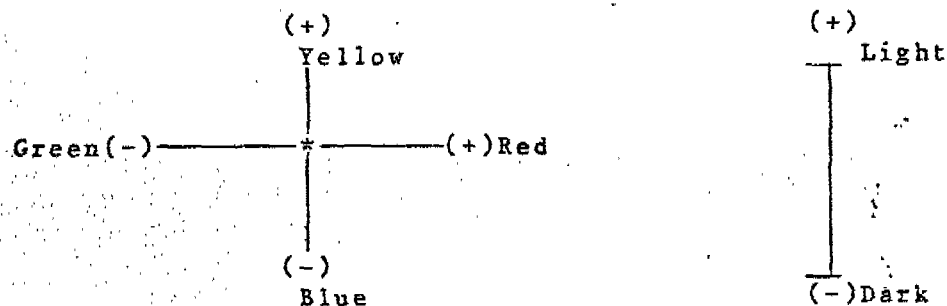
90 duro

Numerical Color Evaluation

Using an MS-2000 spectrophotometer, color variation can be determined using three different mathematical formulations. These are:

Hunter LAB units
CIE L*A*B* units
FMC II units

Each of these units are derived from different mathematical formulas using the data obtained from the sample reflectance curve. Although they vary in their means, each place the sample in a certain color space. The spectrophotometer plots this space out in the following manner with the standard being zero:



The color formulas described above are dependent on the sample and the Light source used. The MS-2000 spectrophotometer has the ability to simulate the following Light sources:

Incandescent	Daylight 65
Fluorescent	Northern Sky

Each of these sources are determined by industry standards. CIE L*A*B* and D65 are normally used by the plastics industry.