

Applications

Applications Note

Insight on Color

Vol. 9, No. 2

Z% Brightness

Background

Z% Brightness is a single-number index that is used to measure the brightness of white materials that tend to yellow with age and/or degradation. This index is not recognized in a formal test method. It is most often used as an in-house test method by companies in the paper industry. It may be used in quantifying optical brightening effects when a sample is measured with the instrument's UV filter in and then its UV filter out. It is sometimes used to measure the effectiveness of bleaching.

Conditions for Measurement

Instrumental: Any HunterLab color measurement instrument

Illuminant: Usually C, but others may be used

Standard Observer Function: Usually 2 degree

Transmittance and/or Reflectance: Reflectance.

Formulas

Z% is the CIE Z value divided by Z for the top of scale and multiplied by 100 to yield a percentage.

$$Z\% = \left(\frac{Z_{\text{CIE}}}{Z_n} \right) 100$$

Typical Applications

This index is used mainly in the paper industry, but it may be used on any white product that yellows.

For Additional Information Contact:

Technical Services Department
Hunter Associates Laboratory, Inc.
11491 Sunset Hills Road
Reston, Virginia 20190
Telephone: 703-471-6870
FAX: 703-471-4237
www.hunterlab.com