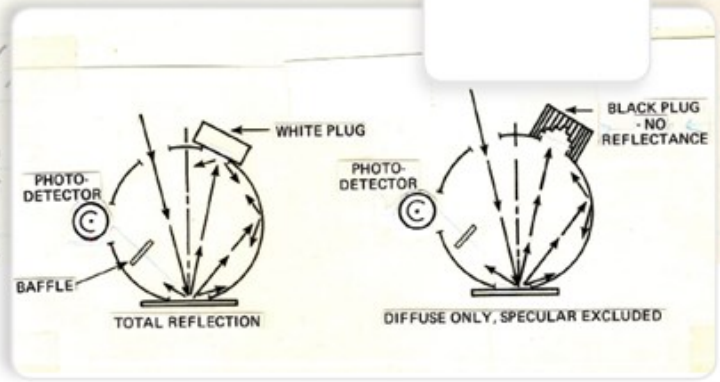
Applications Note

AN 1072



Measuring Z% Brightness

For materials that tend to yellow with age and/or degradation.

Abstract

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.

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Z% 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 Illuminant 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.

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

Typical Applications

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

About HunterLab

HunterLab is the technology leader in color measurement solutions, providing instruments, software, knowledge and service to a wide variety of industries.
With over 5 decades of experience in more than 65 countries, HunterLab applies our leading edge technology to your products helping you measure and communicate color simply and effectively.

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