SLOVENSKI STANDARD
oSIST ISO 9416:2018

01-julij-2018

Papir - Določanje koeficienta sipanja in koeficienta absorpcije svetlobe (uporaba teorije po Kubelka-Munku)

Paper -- Determination of light scattering and absorption coefficients (using Kubelka-Munk theory)

Papier -- Détermination des coefficients de diffusion et d'absorption de la lumière (utilisation de la théorie de Kubelka-Munk)

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INTERNATIONAL STANDARD

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Third edition
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Paper — Determination of light scattering and absorption coefficients (using Kubelka-Munk theory)

Papier — Détermination des coefficients de diffusion et d'absorption de la lumière (utilisation de la théorie de Kubelka-Munk)

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Foreword

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This document was prepared by Technical Committee ISO/TC 6, *Paper, board and pulps*.

This third edition cancels and replaces the second edition (ISO 9416:2009), which has been technically revised, to allow for calculations to use ASTM E308 for instruments that have bandpass correction and still maintain the procedure for instruments without bandpass correction.

Introduction

The opacity of a paper is dependent on its grammage, but it is also intrinsically dependent on the light-absorption and light-scattering coefficients of the material. These coefficients are calculated from the values of the reflectance factor over a black backing, the intrinsic reflectance factor and the grammage of the sheet.

The calculation of these coefficients requires luminance factor data obtained by measurement under specified conditions. Apart from the optical properties of the sample, the luminance factor depends on the conditions of measurement and particularly on the spectral and geometric characteristics of the instrument used for its determination. This document is therefore intended to be read in conjunction with ISO 2469 and ISO 2471.

NOTE This method is based on a theory developed by Kubelka and Munk. This theory describes scattering and absorption processes with certain approximations and simplifications and can therefore yield questionable results in extreme cases. However, the Kubelka-Munk theory offers a simple method for determining these coefficients with the instrument used for the determination of optical properties of paper and pulps. Moreover, the method based on this theory has been successfully used in practical applications.