ISO/TR 10688:2015-11 (E)

Paper, board and pulps - Basic terms and equations for optical properties

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Termsanddefinitions 1
2.1 Brightness 1

3 Calculations 9
3.1 Colour appearance, tristimulus values 9
3.2 Reflectance factor, Y-value, opacity, transmittance 13
3.2.1 Reflectance factor, R 13
3.2.2 Luminous reflectance factor, Ry 13
3.2.3 Y-value (C/2°) 14
3.2.4 Opacity 14
3.2.5 Transmittance from luminous reflectance factor measurements 14
3.3 Brightness 14
3.4 Light-scattering and light-absorption coefficients 15
3.4.1 Conditions for the Kubelka-Munk theory 15
3.4.2 Calculations of s and k 16
3.5 Chromaticity coordinates 17
3.6 Dominant wavelength 18
3.7 CIELAB colour space coordinates 18
3.8 Colour differences in CIELAB colour space 20
3.9 CIE-whiteness and Tint 21
3.9.1 CIE tint 21
3.9.2 CIE-whiteness, W 21
3.10 Fluorescence component 22
3.11 Metamerism index 23
3.12 Yellowness index 23

Bibliography 24