ISO/TS 21139-1:2019 (E)

Permanence and durability of commercial prints — Part 1: Definition of use profiles and guiding principles for specifications

Contents

Foreword

Introduction

1 Scope

2 Normative references

3 Terms and definitions

4 Guiding principles

- 4.1 Image stability in view of use profiles
- 4.2 Stresses in use profiles
- 4.3 Retained print quality in use profiles
- 4.4 Measurements of colour changes
- 4.4.1 Colour fading
- 4.4.2 Colour bleeding
- 4.5 Other evaluations

5 Definition of use profiles based on stresses

- 5.1 General
- 5.2 Daylight and its variations as source of illumination in indoor and outdoor display
- 5.3 Use profiles for indoor display of printed matter
- 5.4 Use profiles for outdoor display of printed matter
- 5.5 Use profiles with mechanical and chemical stress factors
- 5.6 Examples of use profiles for product and usage classes

6 Test methods

- 6.1 General
- 6.2 Limitations of predictive testing
- 6.3 Dependence of image permanence test results of printing technology

7 Reporting of changes

- 7.1 Reporting at fixed load
- 7.2 Reporting until certain change is reached
- 7.3 Blue wool scale and visual grey scale reporting
- 7.4 Communication of results

8 How to define a permanence/durability test suite for a use profile

- 8.1 General
- 8.2 Define use profile
- 8.3 Select test methods and procedure
- 8.4 Measurement and analysis of test results
- 8.5 Communication of image permanence results

Annex A (informative) Examples of indoor display use profiles

Annex B (informative) Test Targets

- B.1 Fogra Media Wedge
- B.2 Idealliance control strip

Annex C (informative) Product classes defined by ISO/TR 19300

Annex D (informative) Estimation of stress levels

D.1 Indoor light
D.1.1 General
D.1.2 UV content of light sources
D.1.3 UV cut-on wavelength of optical-filters
D.1.4 Comparative illumination levels
D.2 Ozone levels
D.2.1 Comparative ozone levels
D.3 Indoor temperature and relative humidity
D.4 Outdoor climate
D.5 Climate during transport (container and car)

Annex E (informative) Example of test results

E.1 Outline
E.2 Light exposure test
E.2.1 Samples
E.2.2 Test procedures
E.2.3 Test results
E.3 Evaluation
E.3.1 Image quality parameter
E.3.2 Visual assessment
E.3.3 Correspondence of measurements to the visual assessments
E.3.4 Evaluation of colour stability

Annex F (informative) Examples of failure modes

Annex G (informative) Calculation of 95th percentile

G.1 General
G.2 Recommended calculation for different sizes of data sets
G.3 Nearest-rank
G.4 Linear interpolation between closest ranks
G.5 The weighted percentile method

Page count: 54