International Standard 8126

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Micrographics — Diazo and vesicular films — Visual density — Specifications

Micrographie — Films diazoïques et vésiculaires — Densité visuelle — Spécifications

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 8126 was prepared by Technical Committee ISO/TC 171, *Micrographics*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

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Micrographics — Diazo and vesicular films — Visual density — Specifications

0 Introduction

Microforms should be of such quality that the data contained therein can give rise to no possible misinterpretation. It is therefore vital that documents for reproduction meet the requirements of micrographics and conform to certain microfilming criteria.

Measuring film and microimage densities ensures that good end results are obtained.

Since silver film density can be measured using regular densitometers (see ISO 6200), a method had to be found for measuring diazo and vesicular films. In the current state of the art, only a method for visual density has been developed.

Visual density should not be confused with printing density. The former is a measurement taking account of the eye's spectral sensitivity whereas the latter is a measurement limited to the spectral sensitivity of the receiving material and the spectral energy distribution of the printing illumination.

Density is generally measured on a single area. However, if densities do not appear uniform throughout the microform, it is recommended to carry out measurements at different points.

1 Scope and field of application

This International Standard specifies a method for measuring the diffuse visual density of diazo films and the projection visual density of vesicular films. It also determines density values of second generation microforms.

This International Standard applies to second generation duplicates made from first generation microfilm of source documents and COM microforms. It does not apply to the printing density of the second generation of the diazo and vesicular duplicates.

2 References

ISO 5, *Photography — Density measurements*

— *Part 1: Terms, symbols and notations.*

— *Part 2: Geometric conditions for transmission density.*

— *Part 3: Spectral conditions.*

ISO 6196, *Micrographics — Vocabulary*

— *Part 1: General terms.*

— *Part 2: Image positions and methods of recording.*

— *Part 3: Film processing.*

— *Part 4: Materials and packaging.* [1)]

— *Part 5: Quality of images, legibility, inspection.* [1)]

ISO 6200, *Micrographics — Density of silver-gelatin type films.*

3 Definitions

For the purpose of this International Standard the definitions of ISO 6196 and the following definition apply.

ISO visual transmission density: The density obtained when

a) the spectral products of the measurement system are the product of the relative spectral power-distribution of CIE illuminant A and the relative spectral luminous efficiency in photopic vision $V(\lambda)$;

b) the densitometer influx is the ISO transmission densitometry illuminant S_H (which is CIE illuminant A modified in the red and infra-red regions to protect the specimen and optical components from excessive heat).

4 Measurement of the diffuse visual density of diazo films

4.1 Method of measurement

The visual density of diazo duplicates shall be measured with a densitometer designed to read ISO standard diffuse visual transmission density, as defined in ISO 5/2 and ISO 5/3 (see the annex).[2)]

1) At present at the stage of draft.

2) According to the functional notation of ISO 5/1, this density is written: D_T (90° opal; S_H: $\leqslant$ 10°; V_T).

The aperture shall have a diameter between 0,5 mm and 3 mm inclusive. For measurement purposes, select an area compatible with these sizes on the microform background. An area can be reserved for this purpose when making a first generation microform.

4.2 Visual density values of diazo duplicates

4.2.1 Source document microforms

The minimum density of the diazo duplicates shall be above D_{min} and less than 0,15. In positive-appearing duplicates (2P) the density is measured in the background area of the image. In negative-appearing duplicates (2N) the density is measured either on a 6 % reflectance patch of a control target or in the clear areas between the frames.

The most satisfactory duplicates are generally produced by printing on the diazo film a density area of 0,35 from a density area of 0,35 on the silver master.

4.2.2 COM microforms

The minimum density of the diazo duplicates shall be above D_{min} and less than 0,15.

Negative-appearing duplicates (2N) shall have a minimum visual background density of 1,3.

Positive-appearing duplicates are not recommended.

5 Measurement of projection visual densities of vesicular film

5.1 Method of measurement

The visual density of vesicular duplicates shall be measured using a densitometer designed for measuring ISO standard $f/4,5$ projection visual transmission density, in compliance with ISO 5/2 and ISO 5/3 (see the annex).[1)]

5.2 Visual density values of vesicular duplicates

5.2.1 Source document microforms

Positive-appearing duplicates (2P) shall have a maximum projection visual background density of 0,25. Negative-appearing duplicates (2N) shall have a minimum projection visual background density of 1,2 and below the maximum density of the film.

5.2.2 COM microforms

Negative-appearing duplicates (2N) shall have a minimum visual background density of 1,80 and below the maximum density of the film.

The most satisfactory duplicates are generally produced at about 85 % of the D_{max} of the duplicate film.

1) According to the functional notation of ISO 5/1, this density is written: D_T (6,4°; S_H: 6,4°; V_T).

Annex

Conformity of densitometers with ISO 5

(This annex does not form an integral part of the standard.)

The conformity of densitometers with ISO 5 should be checked by a qualified body.

Densitometers should also be fitted with zero adjustment and linearity adjustment devices for checking the density scale.

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