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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 14766-2008

Replacing GB/T 14766-1993

**Photography -- Black-and-white continuous-tone papers --
Determination of ISO speed and ISO range for printing**

摄影 黑白连续影调相纸 ISO感光度和ISO印相范围的测定

(English Translation)

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Foreword

This standard is equivalent to international standards ISO 6846:1992 "continuous tone black and white photographic paper --- ISO sensitivity and ISO print Phase measurement range "(in English), and the preparation of technical content and format of ISO 6846:1992 is consistent, but according to China's national standards Write request, delete the ISO standard foreword, preface to the national standard in China.

The revised standard and replaces GB/T 14766-1993 "black and white photographic paper print speed measurement methods and scope." Compared to this standard in content GB/T 14766-1993, the main changes are as follows.

- Revised foreword, an increase of introduction;
- Standard name changed to "continuous tone black and white photographic paper ISO sensitivity and ISO printing range determination";
- In Chapter 3, remove the term "black and white photographic paper Sensitivity", "black and white photographic paper printing range" and "Maximum net density", adding "the most Low density ";
- Chapter 4 for the new "sampling and storage";
- Chapter 5 for the test methods corresponding to the original standards in Chapter 4, but the breakdown of the article, increasing the content of the review;
- Chapter 6, "Categories", corresponding to the original standard Chapter 5, increasing the accuracy of the ISO sensitivity and ISO range of printing Measurement;
- Chapter 7, "product marking and labeling", the contents of the original standard corresponding to Chapter 6, an increase of 7.3 - General;
- Added Appendix A, Appendix B, Appendix C, Appendix D.

The Standard Appendix A, Appendix B, Appendix C, Appendix D is an informative annex.

The standard proposed by China Petroleum and Chemical Industry Association.

The photosensitive material standard by the National Standardization Technical Committee (SAC/TC102) centralized.

This standard was drafted. China Lucky Film Group Corporation.

Introduction

This standard test method for the establishment of a photographic paper performance to help customers use the product appropriately selected. Therefore, ISO sensitivity and ISO print range are two important methods of measurement.

Studies have shown that an acceptable amount of exposure is usually photograph photographic paper logarithm (LER) equal to the effective density range negatives. therefore, LER values directly related to ISO provides an effective range of paper grading standards. This standard can be adjusted to the scene, personal preference, Paper properties such as Dmax, the apparent shape of the curve and get the best picture.

Each manufacturer has created a paper classification system, since the user is difficult to distinguish between performance and photo paper itself or choose a variable contrast with paper filter performance. Therefore, reference number ISO range can reduce confusion.

Methods ISO range instead of measuring the contrast of the image, but a correct negative density range for a given choice of paper useful guide.

Photo image contrast measured using three different methods, involves two points photographic paper characteristic curve.

Density between a) two points of difference (density range);

The slope b) the line (average slope);

Exposure c) two points difference (exposure logarithmic scale) logarithm.

The above three methods, the amount of exposure and the number closest to the concept paper contrast grades (see Appendix B and Appendix C).

When using a mirror optical system printing machine, precise measurement of diffuse density range is not negative illuminance range, because meet diffuse transmittance Density standard conditions usually only present in the contact printing, so the introduction of the term "effective density range" (see Appendix A).

Effective negative density range should be enlarged and printed material normally projection exposure amount corresponding to the value, in order to get the best image restoration.

Negative image by applying the effective density range appropriate correction factor from ISO diffuse transmission density measurement range, or the range of illumination

Photometer with a matching print on the plane (see Appendix A).

Most manufacturers have control paper grade, grade numbers range from 00-6. The larger the level number, the paper characteristic curve the greater the contrast.

ISO range number will increase with the contrast decreases. Users typically use ISO range of negative evaluation of the concept of density range, select Use Grade photographic paper. If the density range is small, it uses a smaller number ISO range of the paper. After some time you will accept this new probability Read, however, the paper establish internationally accepted classification method will bring significant long-term benefits users.

The provisions of this standard is not suitable for practical use in a wide range of exposure conditions. For this reason, when the product except in 2856K tungsten lamp exposure when using other light sources, according to the speed and scope of the program number obtained can not be directly applied.

Due to the specific design of the paper after special processing to obtain the best results, so this standard does not specify a processing method. therefore We should not limit the scope of ISO sensitivity and ISO number as specified by the manufacturer of the processing methods will produce different results.

GB/T 14766-2008/ISO 6846:1992 Continuous tone black and white photographic paper
ISO sensitivity Determination of ISO and printing range

1 Scope

This standard specifies the method for determination of black and white photographic paper ISO sensitivity and ISO print range.

This standard applies to the production of continuous tone or black and white art photography from black and white film photography positive reflection, including ordinary silver halide printing paper and enlarging paper and variable contrast paper. An ordinary paper and liquid processing equipment, but also by using a special program developed a catalyst or heating.

This standard does not apply to.

- a) non-silver photographic paper;
- b) high contrast silver halide photographic paper, such as printing plate or other non-art photographic paper;
- c) direct positive or reverse image of the silver halide photographic paper.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 11501 photographic density measurements - Part 3. Spectral conditions (GB/T 11501-2008, ISO 5-3:1995, IDT) GB/T 12823.4 photographic density measurements - Part 4. Geometric conditions for reflection density (GB/T 12823.4-2008, ISO 5-4. 1983, IDT) ISO 554 standard atmospheric conditions and/or testing --- Specification ISO 6728 photography camera lens --- --- ISO color contribution index measurement (ISO/CC) ISO/CIE10526 CIE standard colorimetric light source

3 Terms and Definitions

The following terms and definitions apply to this standard.

Black and white paper product by illumination with time. Units of lux · sec, represented by the symbol H, is the form of the number of base 10.

Under the provisions of the exposure, processing and testing conditions, the photosensitive material to light radiation response acuity quantified.

LER

Exposure to the range of values \u200b\u200busually used in making a final photograph, photographic paper that is required to get the two specified density value Exposure to the logarithm of the difference.

The minimum density value in accordance with ISO speed measured after processing the resulting product is not exposed.

GB/T 14766-2008/ISO 6846:1992