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

GB 17342-2009

Replacing GB 17342-1998

**Ophthalmic instrument -- Trial case lenses
(English Translation)**

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Foreword

All technical contents of this standard is mandatory.

This revised standard adopts ISO 9801:1997 "ophthalmic instruments refraction lens." this standard and ISO 9801:1997 main technical differences are as follows.

--- The standard Chapter 4. Classification and use for the new section, the auxiliary lens description;

--- The standard 5.2. Added configuration requirements. the basic configuration of refraction

of the lens, auxiliary lens configuration;

--- The standard 5.3. optical performance requirements. cylinder of ball lens tolerance; prism prism sheet, spherical degree, cylinder degree of tolerance;

The geometric center of the lens prism ball lens and the lens sub-file column and tolerance; cylinder axial binning and tolerance; prism sheet baseline Binning and tolerance; make adjustments and provisions of the cross cylinder technical requirements;

--- The standard 5.4. Structural requirements. to adjust the thickness of refraction of the lens; auxiliary lens structure to provide for;

--- The standard 6.3. added auxiliary lens configuration of test methods;

--- The standard 7.1. Added requirements for ball lens, a lenticular lens, a prism sheet single pass rate and the rate of qualified FCL; made the wrong piece Regulations;

--- The standard 8.1. double-sided lettering optometry lenses prescribed a variety of technical indicators should meet the optical performance requirements.

This standard replaces GB 17342-1998 "ophthalmic instruments refraction lens." this standard and GB 17342-1998 "ophthalmic instruments optometry lenses," compared to the main changes are as follows.

--- The standard Chapter 4. Classification and use for the new section, the auxiliary lens description;

--- The standard 5.2. Added configuration requirements. the basic configuration of refraction of the lens, auxiliary lens configuration;

--- The standard 5.3. optical performance requirements. cylinder of ball lens tolerance; prism prism sheet, spherical degree, cylinder degree of tolerance;

Ball lenses and lenticular sheet lens geometric center of the prism binning and tolerance; cylinder axial binning and tolerance; cross-cylinder Make adjustments and provisions of technical requirements;

--- The standard 5.4. Structural requirements. to make adjustments to the thickness of the refraction of the lens, the outer diameter of the frame; auxiliary lens structure made Regulations;

--- The standard 6.3. added auxiliary lens configuration of test methods;

--- The standard 7.1. adjust the requirements of the ball lens, a lenticular lens, a prism sheet single pass rate and the rate of qualified FCL; made the wrong piece Regulations;

--- The standard 7.3. Sampling checklist to make adjustments;

--- The standard 8.1. double-sided lettering optometry lenses prescribed a variety of technical indicators should meet the optical performance requirements.

The standard proposed by China Institute of Metrology.

This standard by the National Standardization Technical Committee Optics and optical instruments - Optical glasses Technical Committee (SAC/TC103/SC3) Centralized.

This standard is mainly drafted by. China Institute of Metrology, Shandong Institute of Metrology, Lianyungang days Connaught Optical Instrument Co., Division Shanghai Instrument Co., Ltd. ASE.

1 Scope

This standard specifies the basic requirements for testing the human eye refractive defects of various refraction lens.

This standard applies to all types of full bore and reduced aperture trial case lenses.

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 2828.1 Sampling procedures for inspection - Part 1. by acceptance quality limit (AQL) retrieval batch inspection sampling plan (GB/T 2828.1-2003, ISO 2859-1:1999, IDT) GB/T 10050 Optics and optical instruments - Reference wavelengths (eqvGB/T 10050-1988, ISO 7944. 1984) JJG580 focimeter

3 Terms and Definitions

The following terms and definitions apply to this standard.

Lens in meters measured paraxial vertex length of the countdown. A lens contains two vertex.

After the lens near the axis in meters measured at the top of the reciprocal of the focal length. 1, from the rear of the lens to focus the vertex axis is called after nearly FIG.

Name diopters.

Under normal circumstances, the vertex of the lens mean a subsequent vertex. Refraction lens vertex power and wavelength. This standard specifies the use of wave Long green mercury line, $\lambda = 546.07\text{nm}$, see GB/T 10050.

F --- the object focus;

F '--- the image side focal point;

H --- object side principal point;

H' --- the image side principal point;

Figure 1 a schematic top focal length lens

Measure the light deviated by a predetermined point on the lens produced (usually the center of the lens) later. Figure 2, the prism is in centimeters Per meter (cm/m), the name of the unit prism diopters.

Figure 2 a schematic view of a prism

Mosaic in the box, for the determination of the refractive defects of the human eye lens.

With 1mm wall thickness of the protective frame and has a maximum limit aperture lenses.

Aperture is significantly smaller than the outer diameter of the frame thickness significantly thinner lenses.

Ball lens, a lenticular lens or ball - column joint optometry lenses chain. In its last time measured back vertex power equal in the frame of the United have a nominal value of refraction of the lens in the meridian.

Paraxial parallel beam converge at a point of refraction lenses.

Paraxial parallel light beam to two separate, mutually orthogonal cross line contains two main vertex of the refraction lens.

Lenticular lens optometry wherein a vertex principal meridian zero. Lenticular refers to the degree of its top vertex is not zero and that a principal meridian Power.

4.1 Purpose

In practice, a combination of all kinds of refraction of the lens is called a trial lens. Hospital of the trial lens, glasses shops for inspection an ophthalmic measuring instruments to check the human eye's refractive state and strabismus, amblyopia and other visual features of the human eye.

Optometry lenses mainly composed of positive and negative refraction spherical lenses, positive and negative cylinder lenses optometry, prism lenses, refraction lenses and other auxiliary components.

4.2 Spherical lenses optometry

By the positive and negative refraction spherical lens elements. Positive spherical lenses for the human eye optometry hyperopia and presbyopia inspection; negative refraction spherical lenses for people Myopic eye examination.