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PEOPLE'S REPUBLIC OF CHINA**

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**Ophthalmic optics and instruments -- Optical devices for
enhancing low vision**

眼科光学和仪器 光学助视器

(English Translation)

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Foreword

All technical contents of this standard is mandatory.

This modification uses the standard ISO 15253:2000 "optics and instruments optical visual aids." This standard and ISO 15253:2000 compared with the content as follows.

--- increase the reference standard GB/T 16886.1 "Biological Evaluation of Medical Devices Guide", ISO 14490-5 "Optics and optical instruments Detection methods for telescopic systems - Part 5. transmittance measurement method ";

--- 5.2.1 increase demand for materials;

--- Delete ISO 15253:2000 standard in Appendix B. Appendix A of this standard is an informative annex.

1 Scope

This standard specifies the optical and mechanical requirements and test method for an optical visual aids.

This standard applies to the optical low vision visual aid manufacturer to provide specially for the visually impaired can also carry electrical component (e.g. An illumination source).

This standard does not apply to low vision electron optical visual aids.

Note: For the low vision electron optical vision aid as specified by other standards.

2 Normative references

Terms of the following documents become provisions of this standard by reference in this standard. For dated reference documents, all later Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to agreements based on this standard Whether the latest versions of these documents. For undated references, the latest version applies to this standard.

GB/T 14214 frames General requirements and test methods

GB/T 16886.1 medical devices Biological Evaluation Guide Part 1: Evaluation and Testing (GB/T 16886.1-2001, idt ISO 10993-1:1997)

ISO 14889 uncut spectacle lens optics lens essential requirements

ISO 14490-5 detection method and optical instruments telescope systems - Part 5.

ISO 15004 ophthalmic instrument basic requirements and test methods

3 Terms and Definitions

The following terms and definitions apply to this standard.

3.1 Kepler telescope

Kepleriantelelescope Combining optical system or the objective lens of a positive lens group and a positive eyepiece or eyepieces group consisting of, in the normal focus, the zoom can be formed inverted Like home.

3.2

Typically assembled from two separate optical systems together, two optical means for simultaneously viewed.

3.3

Binocular optical apparatus by a single observation optical system.

3.4

Placed near the front of the telescope or the negative lens Telescopic microscope objective enables the device to observe the object distance.

3.5

Expressed in meters, equivalent to the reciprocal of the focal length measured in air.

NOTE: equivalent power is represented by the reciprocal of the diopter or meters.

3.6

The optical imaging system of the optical element group closest to the eye for observation of the image formed by the objective lens.

3.7

The main focus of the optical system (or focus) the linear distance to the reference point, shown in Figure 1.

NOTE: The selected reference point different (e.g., vertices, principal point), a focal length needs to be further defined, as defined in 3.7.1 to 3.7.3.

3.7.1

Along the optical axis (axis of symmetry) in the optical system, measuring the distance from the rear surface to the back focus. See Figure 1.

3.7.2

Along the optical axis (axis of symmetry) in the optical system, the front surface of the front focal distance measurement. See Figure 1.

3.7.3

Along the optical axis (axis of symmetry) in the optical system, measure the distance from the focal point to the corresponding master. See Figure 1.

1 --- top front focal length;

2 --- rear top focal length;

3 --- front focus;

4 --- back focus.

1 a schematic view of a focal length

3.8

The object distance, focusing means by a user of the telephoto.

3.9

(Optical low vision) the distance between the near telescope/microscope foremost telescope portion and the object.

3.10

A positive lens or lens group and the negative ocular optical system, or a combination of the group consisting of the eyepiece, the focusing in the normal case, the formed amplified positive.

3.11

By a user's hand to locate and support means without artificial support structure.

3.12

Under conditions specified by the manufacturer, by the low-vision aids can be seen the maximum range of the target object plane.

3.13

Aid for the visually impaired vision enhancement device.

3.14

Kepler or capable of forming a Galilean telescope magnified retinal image of a target and other optical devices.

3.14.1

It is designed to be a hand-held telescope.

3.14.2

Telescope within the frame is mounted on the frame or eyeglass frames.

3.15

It means the ratio of the linear dimensions of the size of an enlarged image of the fundus as seen and the same object seen without magnification means.

3.15.1

In the reference observation point (e.g., the entrance pupil of the eye), the ratio of the imaging angle and the target angle on the side edges.

3.15.2

For magnifier, in meters from the reference line of sight (see 3.20) diopters and in the equivalent power F (see 3.5) by Plot calculated.