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Personal eye-protectors — Optical test methods

Protecteurs individuels de l'œil — Méthodes d'essai optiques

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

International Standard ISO 4854 was developed by Technical Committee ISO/TC 94, *Personal safety — Protective clothing and equipment,* and was circulated to the member bodies in July 1978.

It has been approved by the member bodies of the following countries :

Australia	Iran	Poland
Austria	Ireland	Romania
Belgium	Israel	South Africa, Rep. of
Czechoslovakia	Italy	Spain
Denmark	Mexico	Switzerland
France	Netherlands	USA
Germany, F.R.	New Zealand	USSR
Hungary	Norway	

The member body of the following country expressed disapproval of the document on technical grounds :

United Kingdom

Printed in Switzerland

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Personal eye-protectors — Optical test methods

1 Scope and field of application

This International Standard specifies the optical test methods for eye-protectors the requirements for which are given in ISO 4849 to ISO 4853.[1)]

The test methods other than optical test methods are given in ISO 4855.

2 References

ISO 4849, *Personal eye-protectors — Specifications.*

ISO 4850, *Personal eye-protectors for welding and related techniques — Filters — Utilisation and transmittance requirements.*

ISO 4851, *Personal eye-protectors — Ultraviolet filters — Utilisation and transmittance requirements.*

ISO 4852, *Personal eye-protectors — Infrared filters — Utilisation and transmittance requirements.*

3 Test for refractive, astigmatic and prismatic powers

Any method of examining the required area with an accuracy of ± 0,015 m^{-1} may be used. However, the methods described below are given as reference methods for use in cases of dispute.

3.1 Testing unmounted oculars

3.1.1 Apparatus

3.1.1.1 Telescope, with a magnification of between 7,5 and 20 (recommended magnification 15) with an aperture of 15 to 20 mm and an adjustable eye-piece fitted with a graticule, for example a theodolite which is adjustable both vertically and laterally.

In the event that the telescope, a large-aperture instrument, shows a doubling of the image or other aberration, the ocular to be tested shall be examined with a 5 mm aperture instrument to locate and quantify the area or areas of aberration in the total area of 20 mm diameter. A focometer may be used for this operation.

3.1.1.2 Adjustable light source, with condenser.

3.1.1.3 Target, consisting of a black plate with the cut-out pattern shown in figure 1. The bars are 2,0 mm wide. The larger annulus depicted inside the bars has a diameter of 23 mm with an annular aperture of 0,6 mm, and the smaller has a diameter of 11 mm. The diameter of the central aperture is 0,6 mm. The target is mounted on a glass plate.

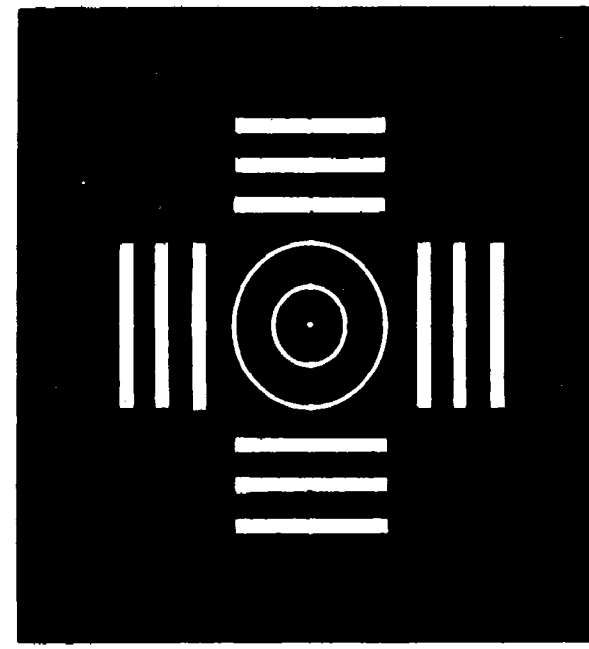

Figure 1 — Target

3.1.1.4 Interference filter, with λ max. = 555 ± 10 nm and a half-band width of approximately 50 nm.

1) In preparation : ISO 4853, *Personal eye-protectors — Daylight filters, utilisation and transmittance requirements.*