INTERNATIONAL STANDARD 4851

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Personal eye-protectors — Ultra-violet filters — Utilisation and transmittance requirements

Protecteurs individuels de l'œil — Filtres pour l'ultraviolet — Utilisation et spécifications de transmission

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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 4851 was developed by Technical Committee ISO/TC 94, *Personal safety — Protective clothing and equipment*, and was circulated to the member bodies in April 1977.

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

Australia	Iran	South Africa, Rep. of
Austria	Ireland	Spain
Belgium	Israel	Switzerland
Brazil	Italy	Turkey
Denmark	Mexico	United Kingdom
Finland	New Zealand	U.S.S.R.
France	Norway	Yugoslavia
Germany, F. R.	Poland	
Hungary	Romania	

No member body expressed disapproval of the document.

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Personal eye-protectors — Ultra-violet filters — Utilisation and transmittance requirements

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the numbering of, and transmittance requirements for filters for protection against ultra-violet radiation. It also gives guidance on their selection and use.

Eye-protectors used for protection against ultra-violet radiation shall meet the general requirements given in ISO 4849. The latter also deals with general considerations relating to eye-protectors, such as identification.

Optical test methods for eye-protectors form the subject of ISO 4854.

Non-optical test methods for eye-protectors form the subject of ISO 4855.

2 REFERENCES

ISO 4007, *Personal eye-protectors — Vocabulary.*

ISO 4849, *Personal eye-protectors — Specifications.* [1)]

ISO 4854, *Personal eye-protectors — Optical test methods.* [1)]

ISO 4855, *Personal eye-protectors — Non-optical test methods.* [1)]

3 NUMBERING OF FILTERS

The complete table of numbering of filters is given in clause 3 of ISO 4849.

The symbol for filters for ultra-violet radiation includes a code number 2 or 3 and the shade number corresponding to the filter, from 1.2 to 5 (see clause 4 below).

4 TRANSMITTANCE REQUIREMENTS

The definitions of transmittance are given in ISO 4007.

The determination of transmittance is described in clause 5 of ISO 4854.

The transmittance variations measured by the scanning of a light beam of 5 mm diameter over the entire area of the filter, except on a marginal area 5 mm wide, shall remain within the limits defined as "relative uncertainty" in table 2 of ISO 4854.

The transmittance requirements for filters used for protection against ultra-violet radiation are given in table 1.

TABLE 1 — **Transmittance requirements**

Scale number	Maximum transmittance in the ultra-violet spectrum τ (λ)		Luminous transmittance τ_V		Transmittance in the infra-red spectrum
	313 nm %	365 nm %	maximum %	minimum %	
2 – 1.2	0,000 3	0,3	100	74,4	No specification
2 – 1.4	0,000 3	0,3	74,4	58,1	
3 – 1.2	0,000 3	50	100	74,4	
3 – 1.4	0,000 3	35	74,4	58,1	
3 – 1.7	0,000 3	22	58,1	43,2	
3 – 2	0,000 3	14	43,2	29,1	
3 – 2.5	0,000 3	6,4	29,1	17,8	
3 – 3	0,000 3	2,8	17,8	8,5	
3 – 4	0,000 3	0,95	8,5	3,2	
3 – 5	0,000 3	0,30	3,2	1,2	

1) At present at the stage of draft.