
**Ophthalmic optics — Contact lenses —
Determination of water content of hydrogel
lenses**

*Optique ophtalmique — Lentilles de contact — Détermination de la teneur
en eau des lentilles en hydrogel*



Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 10339 was prepared by Technical Committee ISO/TC 172, *Optics and optical instruments*, Subcommittee SC 7, *Ophthalmic optics and instruments*.

Annex A forms an integral part of this International Standard. Annexes B and C are for information only.

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Ophthalmic optics — Contact lenses — Determination of water content of hydrogel lenses

1 Scope

This International Standard describes methods for the determination of water content of hydrogel contact lenses. It specifies the procedures for making the measurements and establishes the conditions under which the measurements are to be made.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 8320:1986, *Optics and optical instruments — Contact lenses — Vocabulary and symbols*.

ISO 10344:1996, *Optics and optical instruments — Contact lenses — Saline solution for contact lens testing*.

3 Definitions

For the purposes of this International Standard, the definitions given in ISO 8320:1986 and the following definition apply.

3.1 water content, $w_{\text{H}_2\text{O}}$

Amount of water (expressed as percent by mass fraction) present in a hydrated hydrogel contact lens which is fully equilibrated with saline solution under specified conditions of temperature.

$$w_{\text{H}_2\text{O}} (\%) = \frac{m_{\text{H}_2\text{O}}}{m_{\text{lens}}} \times 100$$

where

$m_{\text{H}_2\text{O}}$ is the mass of water;

m_{lens} is the mass of the hydrated lens.

NOTE — In this context, dissolved solutes such as sodium chloride and buffers contribute to the mass of the hydrated lens.

4 Procedure

The water content shall be determined by the method given in annex A.

NOTE — The methods given in annexes B and C are informative and may be used for quality control purposes only.

5 Test report

The test report shall include the following information:

- a) a reference to this International Standard, i.e. ISO 10339;
- b) the test method used, i.e. method given in annex A as well as, if used, the method given in annex B or C;
- c) identification of the material under test;
- d) the mean water content (result) of the sample, in percent (mass fraction);
- e) the number of samples tested and the number of determinations per sample;
- f) the date of the test.