
**Contact lenses — Determination of back
vertex power —**

Part 1:
Method using focimeter with manual focusing

*Lentilles de contact — Détermination de la puissance frontale arrière —
Partie 1: Méthode utilisant un frontofocomètre à mise au point manuelle*



Contents

1 Scope 1

2 Normative references 1

3 Terms and definitions 1

4 Determination of back vertex power 2

4.1 Principle 2

4.2 Apparatus and reagent 2

4.3 Conditioning of lenses prior to testing 3

4.4 Procedure 3

4.4.1 Calibration 3

4.4.2 Measurement of back vertex power of rigid contact lenses 4

4.4.3 Measurement of back vertex power of hydrogel contact lenses 4

5 Expression of results 4

6 Precision data 4

7 Test report 5

Annex A (informative) Precision data 6

Bibliography 8

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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 9337-1 was prepared by ISO/TC 172, *Optics and optical instruments*, Subcommittee SC 7, *Ophthalmic optics and instruments*.

ISO 9337 consists of the following parts, under the general title *Contact lenses — Determination of back vertex power*:

- *Part 1: Method using focimeter with manual focusing*
- *Part 2: Measurement on contact lenses immersed in saline.*

Introduction

It is intended that the test methods described in this part of ISO 9337 be used by contact lens manufacturers, practitioners and other interested parties.

The method as applied to rigid contact lenses does not differentiate between contact lenses which are stored wet and those which are stored dry. The test procedure allows for wet storage by specifying that wet contact lenses require blotting before measurement. It is considered that the measured value of back vertex power of rigid contact lenses is not influenced by wet storage.

It has been assumed in drafting this part of ISO 9337 that the execution of its provisions will be entrusted to appropriately qualified and experienced people.

Contact lenses — Determination of back vertex power —

Part 1:

Method using focimeter with manual focusing

1 Scope

This part of ISO 9337 describes test methods for the determination of back vertex power of both rigid and hydrogel contact lenses in air using a focimeter with manual focusing. It is applicable to finished contact lenses.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 9337. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 9337 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 8320-1, *Contact lenses and contact lens care products — Vocabulary — Part 1: Contact lenses*.

ISO 10344, *Ophthalmic optics — Contact lenses — Saline solution for contact lens testing*.

3 Terms and definitions

For the purposes of this part of ISO 9337, the terms and definitions given in ISO 8320-1 apply, together with the following.

3.1

back vertex power

F'_v

reciprocal of the paraxial value of the back vertex focal length, measured in metres

3.2

diopetre

D

unit of focusing power of a lens or surface, or of the vergence (refractive index divided by the radius) of a wavefront

NOTE 1 Commonly used symbols for diopetre are D, dpt and δ .

NOTE 2 Diopetre is expressed in reciprocal metres (m^{-1}).

3.3

repeatability

closeness of agreement between mutually independent test results obtained under repeatability conditions

[ISO 3534-1]