

# Complete spectacles —

## Part 2: Specification for prescription spectacles

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# Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Health Care Standards Policy Committee (HCC/-) to Technical Committee HCC/78, upon which the following bodies were represented:

- Association of British Dispensing Opticians
- Association of British Health-Care Industries
- Association of Contact Lens Manufacturers
- British College of Optometrists
- British Contact Lens Association
- British Medical Association
- British Spectacle Frame Makers' Association
- College of Ophthalmologists
- Consumer Policy Committee of BSI
- Consumers' Association
- Department of Health
- Department of Trade and Industry (National Physical Laboratory)
- Federation of Manufacturing Opticians
- Federation of Ophthalmic and Dispensing Opticians
- Flat Glass Manufacturers' Association
- Optic (UK)

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## Foreword

This Part of BS 7394 has been prepared under the direction of the Health Care Standards Policy Committee at the request of the Department of Health.

BS 7394 was prepared because of the need to establish a means of specifying the attributes necessary for complete spectacles. Part 1 of BS 7394 covers certain ready-to-wear spectacles which are commonly available for direct retail, whilst this Part covers spectacles supplied against a prescription.

This Part of BS 7394 defines several terms that may be used when dispensing or which will help in describing the numerical attributes of various lens characteristics. It also includes a lens retention test which has been developed by the Association for Consumer Research (ACRE) with the assistance of the Federation of Manufacturing Opticians (FMO), the Department of Trade and Industry and the Department of Health; consideration will be given to the inclusion of a similar test in Part 1 of this standard at its first revision.

The technical committee responsible for the preparation of this Part of BS 7394 considered the inclusion of the means by which tinted lenses should be specified. This proved difficult because the method of ordering these lenses and the various types of tinting are so varied. In this first edition, 4.4 has been limited in its requirements but at the first revision of this standard it is hoped to provide a more complete specification.

BS 7394-2 is applicable to the product at the point of supply to the wearer (i.e. when it is supplied to the wearer).

This standard does not specify the requirements for sun-glasses without optical correction or the requirements for protective spectacles: these are covered by BS 2724 and BS 2092, respectively.

*Product certification.* Users of this British Standard are advised to consider the desirability of third party certification of product conformity with this British Standard based on testing and continuing surveillance which may be coupled with assessment of a supplier's quality systems against the appropriate Part of BS 5750.

Enquiries as to the availability of third party certification schemes are forwarded by BSI to the Association of Certification Bodies. If a third party certification scheme does not already exist, users should consider approaching an appropriate body from the list of Association members.

Alternatively, users of this British Standard may wish to consider the desirability of assessment and registration of a supplier's quality systems against the appropriate Part of BS 5750 by a third party certification body.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

**Compliance with a British Standard does not of itself confer immunity from legal obligations.**

### Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 10, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

## 1 Scope

**1.1** This Part of BS 7394 specifies requirements for complete spectacles incorporating a pair of prescription lenses.

**1.2** This Part of BS 7394 is not applicable to the following:

- a) ready-to-wear spectacles (see **3.2** and also BS 7394-1);
- b) spectacles to be used for eye protection (these spectacles are specified in BS 2092) nor spectacles intended for use in high activity or contact sports;
- c) spectacles without optical power to be used as non-prescription sun glare eye protectors (these spectacles are specified in BS 2724);

NOTE Annex A contains recommendations on the design of spectacles. Annex B contains recommendations on the glazing of frames and on the optical characteristics that are subjective and, therefore, cannot be specified.

## 2 References

### 2.1 Normative references

This Part of BS 7394 incorporates, by dated or undated reference, provisions from other publications. These normative references are made at the appropriate places in the text and the cited publications are listed on the inside back cover. For dated references, only the edition cited applies; any subsequent amendments to or revisions of the cited publication apply to this British Standard only when incorporated in the reference by amendment or revision. For undated references, the latest edition of the cited publication applies, together with any amendments.

### 2.2 Informative references

This Part of BS 7394 refers to other publications that provide information or guidance. Editions of these publications current at the time of issue of this standard are listed on the inside back cover, but reference should be made to the latest editions.

## 3 Definitions

For the purposes of this Part of BS 7394, the definitions given in BS 3521-1:1991 BS 3521-2:1991, BS 2738-1:1989 and BS 6625-1:1985 apply, together with the following.

### 3.1

#### prescription spectacles

spectacles glazed in accordance with a prescription<sup>1)</sup> written for a particular individual wearer

### 3.2

#### ready-to-wear spectacles; ready-made spectacles

spectacles having two near-vision lenses of equal nominal positive spherical power not exceeding 4 D in which the glazing has not been carried out in direct response to an individually written prescription and which are solely for the purpose of correcting, remedying or relieving presbyopia

### 3.3

#### constringence

the inability of a refracting medium in the form of a simple lens to bring a pencil of paraxial light of different wavelengths to a common focus, the extent of which is calculated as the Abbe number (see **3.4**)

### 3.4

#### Abbe number

a number indicating the constringence (see **3.3**) of a refracting medium and calculated from either of the following equations

$$V_e = \frac{n_e - 1}{n_{F'} - n_{C'}} \quad (1)$$

where

$V_e$  is the Abbe number for the mercury e-line;

$n_{C'}$  is the refractive index of the medium at the wavelength of the cadmium C'-line (643.85 nm);

$n_e$  is the refractive index of the medium at the wavelength of the mercury e-line (546.07 nm);

$n_{F'}$  is the refractive index of the medium at the wavelength of the cadmium F'-line (479.99 nm).

$$V_d = \frac{n_d - 1}{n_F - n_C} \quad (2)$$

where

$V_d$  is the Abbe number for the helium d-line;

$n_C$  is the refractive index of the medium at the wavelength of the hydrogen C-line (656.27 nm);

$n_d$  is the refractive index of the medium at the wavelength of the helium d-line (587.56 nm);

$n_F$  is the refractive index of the medium at the wavelength of the hydrogen F-line (486.13 nm).

NOTE For further information, see BS 3062 and BS 7017.

<sup>1)</sup> The presentation of prescriptions and prescription orders for ophthalmic lenses is specified in BS 2738-2.