LEARNING DOMAINS

CLINICAL PRACTICE

PROFESSIONAL GROUPS

Dispensing opticians — CPD PROVIDER — General Optical Council

Optometrists — CPD PROVIDER — General Optical Council

CPD CODE: C-106272

MCQs AVAILABLE ONLINE:
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This CPD session is open to all FBDO members and associate member optometrists. Successful completion of this CPD session will provide you with a certificate of completion of one non-interactive CPD point. The multiple-choice questions (MCQs) are available online only from Sunday 1 October 2023. Visit www.abdo.org.uk After member login, scroll down and you will find CPD Online within your personalised dashboard. Six questions will be presented in a random order. Please ensure that your email address and GOC number are up-to-date. The pass mark is 60 per cent.

CPD CODE: C-106272

SELF-DIRECTED LEARNING CPD

British Standards and eyecare practitioners

By Amy Seaman PGDip, FBDO CL

Many eyecare practitioners (ECPs) will remember learning about British Standards during their training. Some may even remember quoting specific standards in examinations; BS 2738 in particular will forever be etched in some memories. Adhering to British Standards ensures that all ECPs work with the same terminology and expectations across our sector.

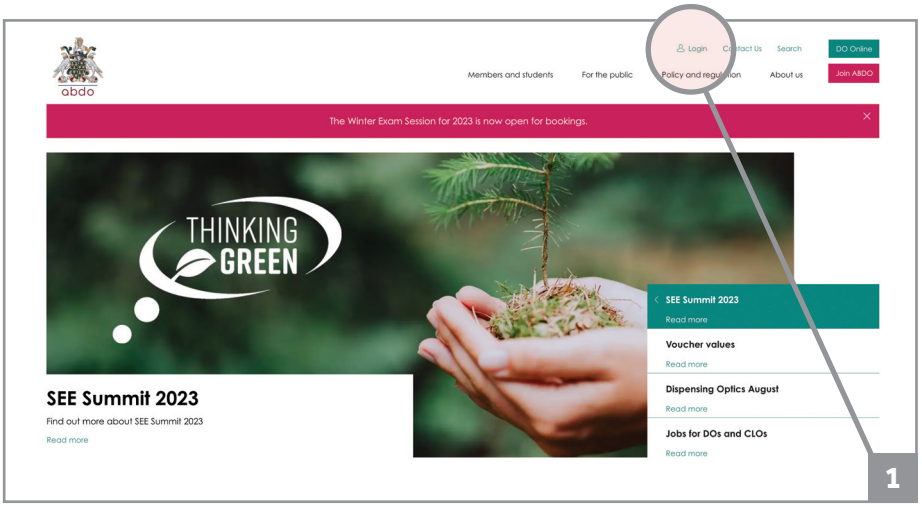
The British Standards Institution (BSI) is the national standards body of the United Kingdom[1]. It is also responsible for the UK publication, in English, of international and European Standards[1]. Although an ECP would only need to refer to specific British Standards that relate to the optical profession, it is worth noting that the BSI provides standards for all sectors – and that it is not just those in the optical profession who need to refer to, keep up-to-date with and quote them. The BSI list of standards contains more than 50,000 standards and publications with 30,000 titles and more being current[2].

BRITISH STANDARDS ACCESS FOR MEMBERS

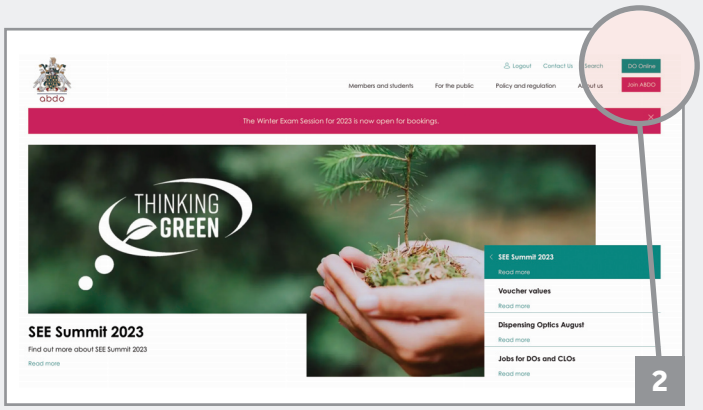
All British Standards are available online, at a cost. ABDO provides members with online, view-only access of up to 25 optical British Standards as a membership benefit.

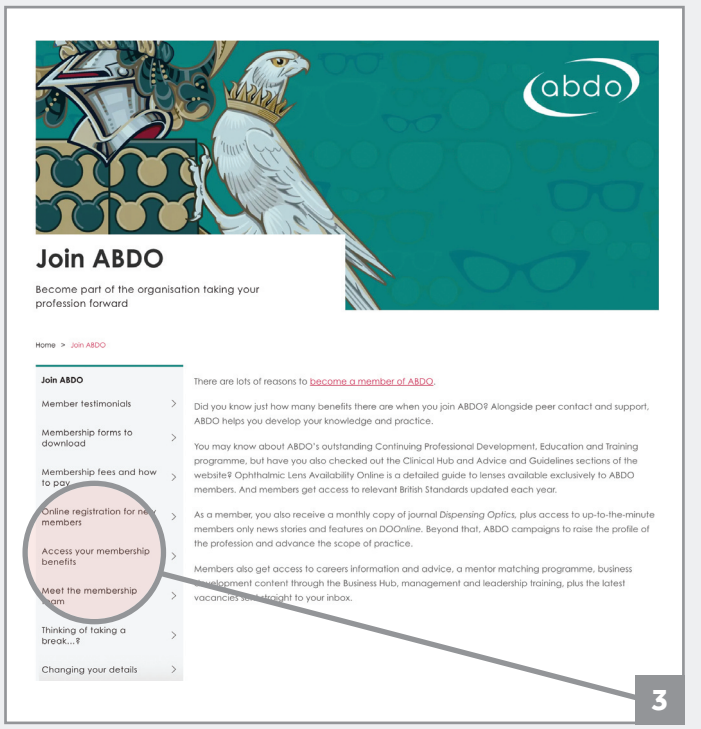
These British Standards can be accessed by following the steps illustrated in the screen grabs shown here:

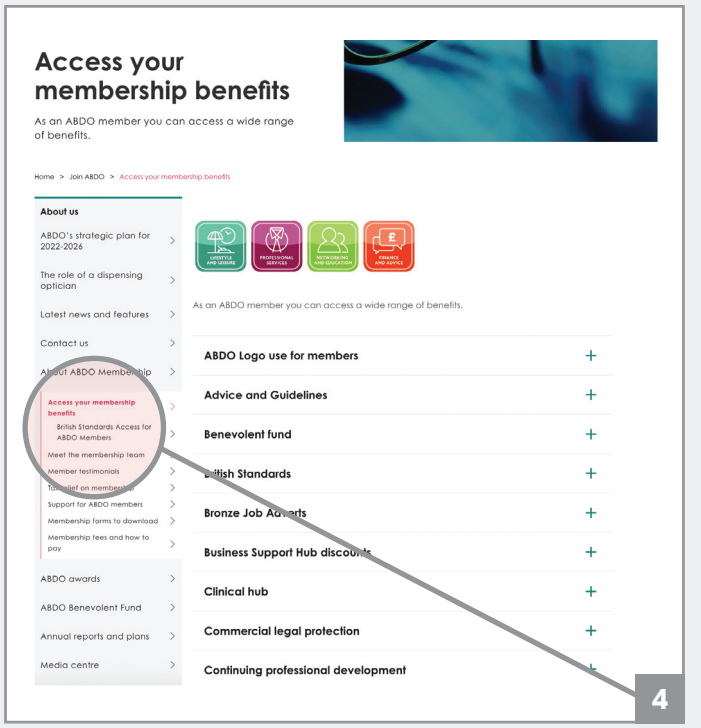
1. ***Log into the ABDO website via the top of the homepage***
2. ***Click on 'Join ABDO' at the top right of the homepage***
3. ***Click on 'Access your membership benefits' in the dropdown box on the left hand side***
4. ***Click on 'British Standard Access for ABDO Members'***

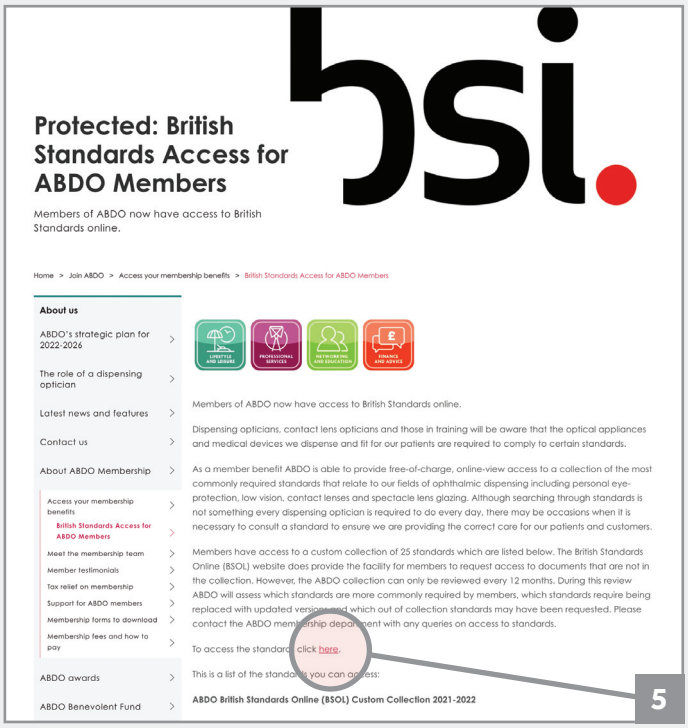


1 to 5: ABDO member process to access the ABDO custom collection of British Standards online









Once in the British Standards Access for ABDO Members page, you will find a list of the standards available to access for free as an ABDO member. Then go to the BSI website and follow the steps below:

- **5 - above.** Scroll down to find 'To access the standards click here'
- On the BSI website and click BSI CC25 under 'My subscription' to access the ABDO custom collection (**Figure 2 - below**)
- Click on the title of the desired standard and follow the instructions to view it online

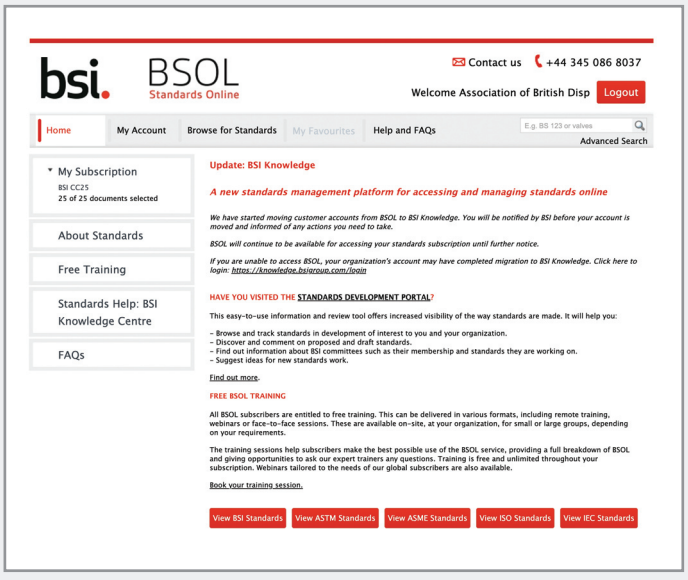


FIGURE 2: BSI portal for ABDO members

KEEPING UP-TO-STANDARD

Several traditional optical standards have been superseded in recent years. To ensure that knowledge is current, up-to-date and personal professional confidence in correct practice is high, reference should regularly be made to British Standards. The ABDO custom collection of British Standards is reviewed annually to enable standards to be replaced if they are withdrawn and new replacements become available.

The famous BS 2738 covers several items that ECPs will look for every day at work[3]. What a written prescription must include, and how it must be written, is standardised by this British Standard and ensures that all are working to the same regulations. It goes further and specifies what information must be included in a spectacle prescription order; both for glazed lenses and uncut lenses.

As professionals, knowledge of this provides assurance that expectations of colleagues are justified and correct. This helps individuals to know when there is a need to refer back to the prescriber for clarification or for additional information. What to expect in order to practice safely is known, and the prescriber understands that a request for this information is not unreasonable.

When checking that spectacles received from the lab are correct and within tolerance before issuing them to the patient, the ECP is checking them against BS EN ISO 21987[4]. This covers tolerances for the sphere (sph), cylinder (cyl), axis and prism of the checked spectacles. Even the temperature at which the tolerances apply is specified.

Ideally, the spectacles would be perfect but, following the British Standard, they can actually pass if they are marginally imperfect. The amount of imperfection that is permitted is governed by this standard and is dependent on each element that has been ordered. If it is found that the spectacles are outside of the allowed tolerance, they must be returned to the lab for remaking so that this can be rectified before the spectacles are issued to the patient.

EXAMPLE OF TOLERANCE CHECKING

Table 1 provides an example of a spectacle prescription. **Table 2** shows the prescription found on focimetry when checking the spectacles that have come back from the lab. Referring to BS EN ISO 21987, we can see the right eye sphere is within tolerance. The right cylinder is out of tolerance as it is more than -0.12D different from the ordered power (remember to check your principal powers in cross-cyl form to ensure if this is correct). The axis is out of tolerance also, as it is more than three degrees different from the ordered axis. The add is within tolerance. For the left eye, all is within tolerance.

	Sph	Cyl	Axis	Prism	Base	Add
Right	-3.00	-1.75	175			+2.00
Left	-3.25	-0.75	170			+2.00

TABLE 1: Ordered prescription

	Sph	Cyl	Axis	Prism	Base	Add
Right	-3.00	-2.00	170			+2.00
Left	-3.37	-0.75	175			+2.12

TABLE 2: Values found when checking spectacles returned from the lab

Despite the axis on both lenses being found to be incorrect by the same number of degrees, it is only out of tolerance for the right eye. This is due to axis tolerance being dependent on the cylindrical power; for the left eye cyl power, a tolerance of up to six degrees is permissible.

The tolerance on the principal powers in this example is ±0.12D, which results in the right eye cyl to be declared incorrect but the left eye powers to be within tolerance. This tolerance margin also changes as the ordered powers increase or decrease.

USING BRITISH STANDARDS IN PRACTICE

Tolerance specifications also exist for contact lenses, though these are different to spectacle lens tolerances. Manufacturers have to check that their contact lenses adhere to the guidance specified in BS EN ISO 18369-2:2017[5]. Vocabulary used when discussing contact lenses, the terms used in specifications and how different contact lenses are classified fall under another standard: BS EN ISO 18369-1:2017[6]. This ensures that all ECPs use the same terms and that no confusion arises.

Another well-quoted standard that will hopefully be remembered is one relating to safety eyewear: BS EN 166[7]. The reader may or may not be aware that this standard was withdrawn in 2022 and has been superseded by BS EN ISO 16321-1:2022[8]. This highlights the need as professionals to maintain knowledge of current legislation as per GOC standard 5 for optometrists and dispensing opticians[9].

Sports eyewear has British Standards to conform to, which includes requirements and test methods. Eyewear intended to be used for surface swimming has its own standard; specifically, BS ISO 18527-3:2020[10]. This covers non-prescription and prescription swimming eyewear. All parts of the eyewear are included, from the headband to the luminous transmittance of the lenses. Prescription tolerances, minimum field of view and mechanical strength requirements can all be found in this standard.

BS EN ISO 15253:2021 specifies requirements and test methods for low vision devices[11]. The information that must be provided by the manufacturer about the device and the instructions for use are even included in this standard.

Sunglasses for general use, including clip-on sunglasses, are subject to BS EN ISO 12312-1:2022[12]. ECPs are likely to come across sunglasses from all over the world in their career, as patients are sure to bring in pairs that they have purchased on holiday or possibly on the internet.

All sunglasses supplied by UK opticians must conform to British Standards. Confidence in the robustness and protection being provided can only be assured by using manufacturers that

specify their testing to this regulation. The standard covers construction of the sunglasses and surface quality, not just the transmittance requirements and prescription tolerances. Educating patients on this can not only raise awareness but aid justification of sunglass recommendations in practice. It should be noted that this standard specifically covers general use sunglasses and that tinted glasses for other purposes such as sports and occupation hazards are covered elsewhere.

The depth of tints that are permitted for driving is a popular topic. It must be ensured that sunglasses within regulations are provided and that the correct advice is given to drivers. BS EN ISO 12312-1:2022 is the one to refer to for this.

Requirements for road use and driving are detailed for differing light conditions and for different types of filters, enabling reference to be made to this standard and confident advice to be issued.

Members of the public are able to access a summary of the lens transmission requirements for driving in different lighting conditions on public websites such as the AA[13]. Light transmission through their lenses must be at least 80 per cent if a patient wishes to wear the same pair of glasses when driving in the day or at night.

This self-directed learning article will require you to access the ABDO custom collection of British Standards, as described, to answer the multiple-choice questions.

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AMY SEAMAN qualified as a dispensing optician (DO) in 2007 and then as a contact lens optician (CLO) in 2016. She followed this with the minor eye conditions services for CLOs qualification in 2018. Amy has worked as a DO and a CLO in both independent and multiple practice. She has previously worked at Bradford College, lecturing in Ophthalmic Dispensing, has experience of supervising contact lens clinics at the University of Bradford and was a tutor for ABDO College. Amy currently locums in independent practices and is a member of Sheffield LOC and South Yorkshire Community Optometry Forum. She is a practical examiner and theory paper marker for ABDO and has presented at optical events in the UK and overseas. Amy regularly works with the ABDO CPD Department including facilitating both face-to-face and online CPD sessions.

LEARNING OUTCOMES FOR THIS CPD ARTICLE

DOMAIN: Clinical Practice

5.3: *Be aware of the current British Standards relevant to the UK eyecare sector and how to use these to ensure your practice and care is up-to-date.*

7.5: *Provide effective care and treatment to your patients by ensuring you are abiding by the relevant British Standards.*