

This is a preview of "BS ISO 18527-3:2020". [Click here to purchase the full version from the ANSI store.](#)



BSI Standards Publication

Eye and face protection for sports use

Part 3: Requirements and test methods for eyewear
intended to be used for surface swimming

This is a preview of "BS ISO 18527-3:2020". [Click here to purchase the full version from the ANSI store.](#)

National foreword

This British Standard is the UK implementation of ISO 18527-3:2020. It supersedes BS 5883:1996, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PH/2, Eye protection.

A list of organizations represented on this committee can be obtained on request to its committee manager.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2021
Published by BSI Standards Limited 2021

ISBN 978 0 580 95004 9

ICS 13.340.20; 97.220.30; 97.220.40

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 January 2021.

Amendments/corrigenda issued since publication

Date	Text affected
------	---------------

This is a preview of "BS ISO 18527-3:2020". [Click here to purchase the full version from the ANSI store.](#)

First edition
2020-10-19

Eye and face protection for sports use —

Part 3: Requirements and test methods for eyewear intended to be used for surface swimming

Protection des yeux et du visage à usage sportif —

Partie 3: Exigences et méthodes d'essai pour les articles de lunetterie destinés à la natation de surface



Reference number
ISO 18527-3:2020(E)

© ISO 2020

This is a preview of "BS ISO 18527-3:2020". Click here to purchase the full version from the ANSI store.



COPYRIGHT PROTECTED DOCUMENT

© ISO 2020, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

This is a preview of "BS ISO 18527-3:2020". [Click here to purchase the full version from the ANSI store.](#)

Contents

	Page
Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 General requirements for eyewear	3
4.1 Physiological compatibility.....	3
4.2 Construction and adjustment.....	4
4.3 Cleaning and/or disinfection.....	4
4.4 Lens material and surface quality.....	4
4.5 Headform(s).....	4
4.6 Resistance to corrosion.....	4
4.7 Retention by headband (Sit and fit).....	4
4.8 Mandatory and optional requirements.....	4
5 Transmittance of the lenses	5
5.1 General.....	5
5.2 Transmittance and filter categories.....	5
5.3 General transmittance requirements.....	5
5.3.1 Uniformity of luminous transmittance and transmittance matching.....	5
5.3.2 Variations due to thickness variations.....	6
5.4 Special transmittance requirements.....	6
5.4.1 Photochromic lenses.....	6
5.4.2 Polarizing lenses.....	6
5.5 Claimed solar absorption/transmittance properties (optional).....	6
5.5.1 General.....	6
5.5.2 Solar blue-light absorption/transmittance.....	6
5.5.3 Solar UV absorption/transmittance.....	6
5.5.4 Anti-reflective coated lenses (optional).....	7
5.5.5 Reduced reflection coated lenses (optional).....	7
6 Scattered light	7
7 Refractive power and prismatic power	7
7.1 Non-prescription nominally plano or afocal lenses.....	7
7.1.1 Refractive power.....	7
7.1.2 Spatial deviation.....	8
7.1.3 Prism imbalance.....	8
7.2 Non-prescription mass-produced powered lenses.....	8
7.3 Prescription lenses.....	9
7.3.1 Spherical and cylindrical power.....	9
7.3.2 Prismatic power of unmounted lenses.....	9
7.3.3 Prism imbalance for mounted prescription lenses.....	9
8 Mechanical strength	9
8.1 General.....	9
8.2 Failure criteria after impact.....	9
9 Other requirements for lenses	10
9.1 Minimum optical aperture.....	10
9.1.1 Recreational and competitive use.....	10
9.1.2 Specialist competitive use (optional).....	10
9.2 Field of view.....	10
9.3 Temporal flange lenses.....	10
9.4 Resistance to fogging (optional).....	10
9.4.1 Pre-conditioning.....	10

This is a preview of "BS ISO 18527-3:2020". [Click here to purchase the full version from the ANSI store.](#)

9.4.2	Testing.....	11
10	Other requirements	11
10.1	Leakage.....	11
10.2	Compressive strength of eyewear.....	11
10.3	Adhesion of water seal to eyecup.....	11
10.4	Headband.....	11
	10.4.1 Adjustment.....	11
	10.4.2 Resistance to slipping.....	11
	10.4.3 Resistance to breaking.....	11
10.5	Nosebridge strap.....	11
11	Test methods.....	12
11.1	Leakage.....	12
	11.1.1 Apparatus.....	12
	11.1.2 Procedure.....	13
	11.1.3 Report.....	14
11.2	Compressive strength of eyewear.....	14
	11.2.1 Apparatus.....	14
	11.2.2 Procedure.....	14
	11.2.3 Test report.....	14
11.3	Adhesion of a foam-style water seal to the eyecup.....	15
	11.3.1 Apparatus.....	15
	11.3.2 Procedure.....	15
	11.3.3 Test report.....	15
11.4	Slip resistance of the headband.....	15
	11.4.1 Apparatus.....	15
	11.4.2 Procedure.....	15
	11.4.3 Test report.....	16
11.5	Method for determining the strength of the headband.....	16
	11.5.1 Apparatus.....	16
	11.5.2 Procedure.....	16
	11.5.3 Test report.....	16
11.6	Method for determination of the tensile strength and slip resistance of the nosebridge strap.....	17
	11.6.1 Apparatus.....	17
	11.6.2 Procedure.....	17
	11.6.3 Test report.....	17
12	Labelling and information to be supplied by the manufacturer	17
12.1	Complete eyewear.....	17
12.2	Mandatory markings on swimming eyewear.....	17
12.3	Information to be supplied by the manufacturer with each eyewear.....	17
12.4	Additional information to be available from the manufacturer.....	19
13	Selection of test samples.....	20
13.1	General.....	20
13.2	Preparation and conditioning of test samples.....	20
Annex A (informative) Selection and use of swimming eyewear		22
Annex B (informative) Types of eyewear		23

This is a preview of "BS ISO 18527-3:2020". [Click here to purchase the full version from the ANSI store.](#)

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 94, *Personal safety — Personal protective equipment*, Subcommittee SC 6, *Eye and face protection*.

A list of all parts in the ISO 18527 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national body. A complete listing of these bodies can be found at www.iso.org/members.html.

This is a preview of "BS ISO 18527-3:2020". [Click here to purchase the full version from the ANSI store.](#)

Introduction

This family of documents comprised of the ISO 16321 series, the ISO 18526 series and the ISO 18527 series was developed in response to the worldwide stakeholders' demand for minimum requirements and test methods for eye and face protectors traded internationally. ISO 4007 gives the terms and definitions for all the various product types. The test methods are given in the ISO 18526 series, while the requirements for occupational eye and face protectors are given in the ISO 16321 series. Eye protectors for specific sports are mostly dealt with by the ISO 18527 series. A guidance document, ISO 19734, for the selection, use and maintenance of eye and face protectors is under preparation.

This is a preview of "BS ISO 18527-3:2020". [Click here to purchase the full version from the ANSI store.](#)

Eye and face protection for sports use —

Part 3:

Requirements and test methods for eyewear intended to be used for surface swimming

1 Scope

This document specifies requirements and test methods for eyewear intended for surface swimming only. It contains requirements for eyewear for both recreational and specialist competitive swimming. It deals with materials, construction, optical properties and test methods.

Requirements for the labelling and marking of swimming eyewear and for information to be supplied by the manufacturer are also specified.

Eyewear intended for surface swimming conforming to the requirements of this standard are suitable for surface use and shallow diving only, e.g. from the edge of a pool, and are not suitable for wear when diving from a high board.

This document applies to eyewear that include

- a) non-prescription nominally plano or afocal lenses,
- b) non-prescription mass-produced corrective lenses, and
- c) prescription lenses.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 48-2, *Rubber, vulcanized or thermoplastic — Determination of hardness — Part 2: Hardness between 10 IRHD and 100 IRHD*

ISO 4007, *Personal protective equipment — Eye and face protection — Vocabulary*

ISO 8980-1:2017, *Ophthalmic optics — Uncut finished spectacle lenses — Part 1: Specifications for single-vision and multifocal lenses*

ISO 8980-2:2017, *Ophthalmic optics — Uncut finished spectacle lenses — Part 2: Specifications for power-variation lenses*

ISO 11664-2, *Colorimetry — Part 2: CIE standard illuminants*

ISO 12312-1:2013, *Eye and face protection — Sunglasses and related eyewear — Part 1: Sunglasses for general use*

ISO 18526-1:2020, *Eye and face protection — Test methods — Part 1: Geometrical optical properties*

ISO 18526-2:2020, *Eye and face protection — Test methods — Part 2: Physical optical properties*

ISO 18526-3:2020, *Eye and face protection — Test methods — Part 3: Physical and mechanical properties*