



SLOVENSKI STANDARD

SIST EN 16128:2025

01-december-2025

Nadomešča:
SIST EN 16128:2016

Očesna optika - Referenčna preskusna metoda za ugotavljanje sproščanja niklja iz okvirjev očal in sončnih očal

Ophthalmic optics - Reference method for the testing of spectacle frames and sunglasses for nickel release

Augenoptik - Referenzverfahren für die Bestimmung der Nickellässigkeit von Brillenfassungen und Sonnenbrillen

Optique ophtalmique - Méthode d'essai de référence relative à la libération du nickel par les montures de lunettes et les lunettes de soleil

Ta slovenski standard je istoveten z: EN 16128:2025

<https://standards.iteh.ai/catalog/standards/sist/e6a00b22-828c-4177-95aa-27f4b77f2b33/sist-en-16128-2025>

ICS:

11.040.70	Oftalmološka oprema	Ophthalmic equipment
-----------	---------------------	----------------------

SIST EN 16128:2025

en,fr,de

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 16128

October 2025

ICS 11.040.70

Supersedes EN 16128:2015

English Version

**Ophthalmic optics - Reference method for the testing of
spectacle frames and sunglasses for nickel release**

Optique ophtalmique - Méthode d'essai de référence
relative à la libération du nickel par les montures de
lunettes et les lunettes de soleil

Augenoptik - Referenzverfahren für die Bestimmung
der Nickellässigkeit von Brillenfassungen und
Sonnenbrillen

This European Standard was approved by CEN on 8 September 2025.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.

SIST EN 16128:2025

<https://standards.iteh.ai/catalog/standards/sist/e6a00b22-828c-4177-95aa-27f4b77f2b33/sist-en-16128-2025>



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents

Page

European foreword.....	4
Introduction	6
1 Scope	7
2 Normative references	7
3 Terms and definitions	7
4 Principle	8
5 Selection of test samples	9
6 Simulation of wear and corrosion.....	10
6.1 Preparation of test samples	10
6.2 Procedure.....	11
7 Coating test.....	11
7.1 General.....	11
7.2 Apparatus and consumables	12
7.3 Preparation of test samples for the coating test.....	13
7.3.1 Parts to be tested.....	13
7.3.2 Dismantling and/or cutting and/or masking	13
7.3.3 Determination of test area.....	15
7.3.4 Preparation of electrical contact area	15
7.4 Preparation of saline solution.....	15
7.5 Procedure.....	15
7.5.1 Preparation of the electro-chemical cell	15
7.5.2 Insertion and connection of the test part in the electro-chemical cell	16
7.5.3 Determination of open circuit potential and measurement of electrochemical impedance of test samples.....	16
7.5.4 Calibration and verification of the equipment.....	17
7.6 Calculation of results	17
7.6.1 General.....	17
7.6.2 Criteria for pass or fail of the test sample	17
7.7 Test report.....	17
8 Release of nickel and its quantitative analytical detection (migration test)	19
8.1 General.....	19
8.2 Apparatus and consumables	19
8.3 Preparation of test samples for the migration test.....	21
8.3.1 Parts to be tested – general	21
8.3.2 Small parts to be tested.....	21
8.3.3 Guidance on selection of test areas on the parts to be tested	21
8.3.4 Dismantling and degreasing	22
8.4 Procedure.....	22
8.4.1 Preparation of test paper including determination of its area	22
8.4.2 Preparation of artificial sweat solution	23
8.4.3 Applying artificial sweat solution to the test paper and attaching it to the test sample....	24
8.4.4 Blank sample	25
8.4.5 Incubation of test sample with test paper attached (release of nickel into paper)	25

8.4.6	Retrieval of the test paper from the test samples.....	25
8.4.7	Analysis of the test papers for nickel	26
8.5	Calculation of migration test results	27
8.6	Interpretation of migration test results	28
8.6.1	General	28
8.6.2	Assessment of compliance.....	28
8.6.3	Retesting after a fail result with the migration test.....	29
8.7	Test report	29
Annex A (informative) Examples of mounting test samples in the EN 12472 tumbling barrel.....		31
Annex B (normative) Measuring device and identifying where to test sides		32
Annex C (informative) Cutting and masking of test samples (Coating test)		38
Annex D (informative) Quality control material for the coating test.....		42
Annex E (normative) Selection of test areas and application of the test paper (Migration test) .		43
Bibliography		49

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[SIST EN 16128:2025](https://standards.iteh.ai/catalog/standards/sist/e6a00b22-828c-4177-95aa-27f4b77f2b33/sist-en-16128-2025)

<https://standards.iteh.ai/catalog/standards/sist/e6a00b22-828c-4177-95aa-27f4b77f2b33/sist-en-16128-2025>

European foreword

This document (EN 16128:2025) has been prepared by Technical Committee CEN/TC 170 “Ophthalmic optics”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2026, and conflicting national standards shall be withdrawn at the latest by April 2026.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 16128:2015.

EN 16128:2025 includes the following significant technical changes with respect to EN 16128:2015:

- Clause 4 has been modified to give a better scientific explanation of why a sample that fails the coating test might pass the migration test. It also states that the coating test is not a screening test since a pass allows a product to be labelled as compliant with REACH. A revised flowchart (Figure 1) reinforces this. The warning about taking particular attention over handling samples to avoid additional damage has been reinforced;
- Clause 5 emphasizes that if a sample fails the coating test, then all parts of the sample have to be tested with the migration test, not just the part that failed;
- Clause 6 notes that the lenses are needed in the frame to protect the groove during the simulated wear and corrosion procedure. Although it applies to EN 12472, new Annex A provides illustrations of mounts that can be used to hold sample frames in the tumbling barrel;
- Clauses 7 and 8 refer to the new normative Annex B for advice on where to test sides. Both recommend that the test or dummy lenses are kept in the frame for the tests;
- More detailed advice on where to mask frames before the coating test has been provided in Clause 7. The new quality control samples are mentioned in the new Annex D. Photographic records of the samples are now required in the test report;
- Clause 8 now permits the use of a hermetically-sealed cabinet and laboratory oven to be used for the migration process as well as a climate chamber. The concentration of the control solution has been doubled and the volume halved, to avoid overloading the piece of test paper, which is suggested to be 10 % larger. Again, photographic records of the samples are now required in the test report;
- Annexes B, C and D have photographic figures to illustrate sample preparation since they give better clarity than drawings. The examples pictured provide no manufacturer markings and are in no way intended to promote a particular manufacturer or style;
- Annex E has been revised to recommend folding of the sealing film over the test or dummy lenses rather than wrapping around the rim.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

iTeh Standards
(<https://standards.itih.ai>)
Document Preview

[SIST EN 16128:2025](https://standards.itih.ai/catalog/standards/sist/e6a00b22-828c-4177-95aa-27f4b77f2b33/sist-en-16128-2025)

<https://standards.itih.ai/catalog/standards/sist/e6a00b22-828c-4177-95aa-27f4b77f2b33/sist-en-16128-2025>