
**Optics and optical instruments —
Microscopes — Slides —**

Part 2:

Quality of material, standards of finish and
mode of packaging

*Optique et instruments d'optique — Microscopes — Lames porte-objet —
Partie 2: Qualité des matériaux, normes de finition et mode d'emballage*



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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.

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 8037-2 was prepared by Technical Committee ISO/TC 172, *Optics and optical instruments*, Subcommittee SC 5, *Microscopes and endoscopes*.

ISO 8037 consists of the following parts under the general title *Optics and optical instruments — Microscopes — Slides —*

Part 1: Dimensions, optical properties and marking

Part 2: Quality of material, standards of finish and mode of packaging

Annex A forms an integral part of this part of ISO 8037. Annexes B to D are for information only.

Introduction

The data given in this part of ISO 8037 on optical microscope slides are intended to provide for safety of the end user as well as for adequate performance of the product. (Dimensions and optical properties are described in ISO 8037-1.)

Requirements for smoothness of edges and perhaps rounding of corners, reducing the risk to technicians of finger cuts or abrasions, have become increasingly urgent. This is especially important because of the possibility of infection during research or diagnostic work involving blood or other bodily fluids, since these might be contaminated with HIV virus related to AIDS. Cut-edge slides should not be used because of these hazards.

The data given in this part of ISO 8037 are applicable to most products in use and have been adapted to take into account relevant national standards in force.

Optics and optical instruments — Microscopes — Slides —

Part 2:

Quality of material, standards of finish and mode of packaging

1 Scope

This part of ISO 8037 specifies requirements and test methods for the quality of material, standards of finish and mode of packaging of silicate microscope slides for use in transmitted light microscopy in the visible spectrum range (400 nm to 760 nm).

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 8037. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 8037 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 2859-1:1989, *Sampling procedures for inspection by attributes — Part 1: Sampling plans indexed by acceptable quality level (AQL) for lot-by-lot inspection*

ISO 4287-1:1984, *Surface roughness — Terminology — Part 1: Surface and its parameters*

ISO 8037-1:1986, *Optics and optical instruments — Microscopes — Slides — Part 1: Dimensions, optical properties and marking*

ISO 11455: 1995, *Raw optical glass — Determination of birefringence*

3 Definitions

For the purposes of this part of ISO 8037, the following definitions apply.

3.1 seed

Small bubble in glass, sometimes elongated.

3.2 stone

Containment or solid inclusion in glass resulting from poor melting of batch or particle from furnace wall.

3.3 cord

Vitreous compositional inhomogeneities in glass (also known as striae, ream or glassy knots).

3.4 line

Fine parallel line on glass surface in direction of draw.

3.5 nick

Place where minute piece(s) of glass have been removed from the edge of the glass, giving rise to poor edge finish.

3.6 cleanliness

Freedom from visible surface contamination such as fingerprints, particulate matter or residue left from cleaning process.

3.7 cloudiness; haze

Light scattering or reduced transparency due to surface deterioration, typically as a result of atmospheric attack in the presence of humidity and CO₂.

3.8 abrasion

Surface damage and pitting, typically caused by vibration of one slide surface on another during packaging or during shipment and handling.

3.9 AQL

Acceptable Quality Level, as defined in ISO 2859-1.

3.10 lux

Unit of illumination equal to one lumen per square metre.

3.11 vision 1,0; standard visual acuity

Ability to see an object so small that the angle subtended at the eye is only one minute of arc (1/60 of a degree).

NOTE 1 At 0,6 m the size of a test object is about 1,75 mm.

NOTE 2 Since slight colour variation is permitted, definition of colour vision quality of the observer is not critical.

3.12 non-flatness; waviness

Sum of the maximum positive and negative profile departures (see 4.18 of ISO 4287-1:1984), of the real profile to the reference line, over the evaluation length (see 4.17 of ISO 4287-1:1984).

3.13 real profile

Equally spaced points, separated by not more than 1 mm, parallel to the long edge of the slide and approximately centred on the surface being evaluated (see 4.9 of ISO 4287-1:1984).

NOTE This definition allows continuous curves, which may be filtered to remove roughness, if so desired.

3.14 reference line

Nominal profile or any arithmetical mean line of the profile (see 4.20 of ISO 4287-1:1984), including the least squares mean line of the profile (see 4.19 of ISO 4287-1:1984).

NOTE 1 The particular reference line selected from these options is at the discretion of the evaluator and is to be identified.

NOTE 2 See also 4.15 of ISO 4287-1:1984.

3.15 nominal profile

Reference line joining the ends of the real profile.

3.16 evaluation length

See the definition given in 4.17 of ISO 4287-1:1984.

NOTE For the purposes of this part of ISO 8037, the evaluation length is 60 mm for slides of 76 mm length and 30 mm for slides of 46 mm length. The evaluation length consists of one sampling length (see 4.16 of ISO 4287-1:1984).

3.17 thickness variation

Difference between the largest and smallest thickness measurements, within a slide.