

STN	Laboratórne sklo Rúrky z borokremičitého skla (ISO 4803: 2021)	STN EN ISO 4803 70 4167
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Laboratory glassware - Borosilicate glass tubing (ISO 4803:2021)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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Laboratory glassware - Borosilicate glass tubing (ISO 4803:2021)

Verrerie de laboratoire - Tubes en verre borosilicaté
(ISO 4803:2021)

Laborgeräte aus Glas - Rohre aus Borosilicatglas (ISO
4803:2021)

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EN ISO 4803:2023 (E)

Contents	Page
European foreword.....	3

European foreword

The text of ISO 4803:2021 has been prepared by Technical Committee ISO/TC 48 "Laboratory equipment" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 4803:2023 by Technical Committee CEN/TC 332 "Laboratory equipment" 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of an identical text or by endorsement, at the latest by September 2023, and conflicting national standards shall be withdrawn at the latest by September 2023.

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Endorsement notice

The text of ISO 4803:2021 has been approved by CEN as EN ISO 4803:2023 without any modification.

INTERNATIONAL STANDARD

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Second edition
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Laboratory glassware — Borosilicate glass tubing

Verrerie de laboratoire — Tubes en verre borosilicaté



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Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Designation	1
5 Material	1
5.1 General.....	1
5.2 Hydrolytic resistance.....	1
5.3 Thermal coefficient of expansion.....	1
6 Range of sizes and tolerances	2
6.1 Diameter and wall thickness.....	2
6.1.1 Determination of outer diameter.....	2
6.1.2 Determination of wall thickness.....	2
6.2 Wall thickness difference (Siding).....	2
6.3 Length.....	2
6.4 Straightness.....	2
6.5 Ovality.....	4
Bibliography	8

ISO 4803:2021(E)

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).

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For an explanation of 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 www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 48, *Laboratory equipment*.

This second edition cancels and replaces the first edition (ISO 4803:1978), which has been technically revised.

The main changes compared to the previous edition are as follows:

- update of the dimensions and tolerances;
- inclusion of a comprehensive and precise description of the mentioned quality characteristics and determination methods.

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Introduction

Borosilicate glass is a class of glass, which is classified in ISO 12775. Borosilicate glasses show properties such as a very high hydrolytic resistance, a very high acid resistance and a medium alkali resistance. Borosilicate glasses can contain alkali earths or be free of alkali earths. The alkali-earth free borosilicate glasses have a very low coefficient of mean linear thermal expansion α of $3,3 \times 10^{-6} \text{ K}^{-1}$ (in the temperature range from 20 °C to 300 °C). They were first developed in 1887 and constitute since then an industrial standard, which is reflected by the standardization of the composition, chemical and physical properties of the material in ISO 3585.

These special characteristics make this glass preferable for technical purposes with high chemical and thermo shock resistance. The field of application is mainly laboratories for chemical, pharmaceutical and food industries as well as other technical applications where these properties are needed.

Laboratory glassware — Borosilicate glass tubing

1 Scope

This document specifies requirements for borosilicate 3,3 glass tubing according to ISO 3585 for laboratory apparatus in an outer diameter range from 4 mm to 300 mm. This document defines dimensions, material, denomination, designation, requirements and inspection methods.

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 719, *Glass — Hydrolytic resistance of glass grains at 98 °C — Method of test and classification*

ISO 3585, *Borosilicate glass 3.3 — Properties*

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