INTERNATIONAL STANDARD

ISO 4797

Second edition
2004-07-01

Laboratory glassware — Boiling flasks with conical ground joints

Verrerie de laboratoire — Fioles coniques et ballons à col muni d'un assemblage conique rodé

Reference number
ISO 4797:2004(E)

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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.

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.

ISO 4797 was prepared by Technical Committee ISO/TC 48, *Laboratory glassware and related apparatus*, Subcommittee SC 6, *Laboratory and volumetric ware*.

This second edition cancels and replaces the first edition (ISO 4797:1981), which has been technically revised to incorporate the following changes:

a) dimensions and joint sizes have been adapted to the current state of manufacturing;

b) two series have been introduced for conical flasks;

c) height tolerances have been added to Series 1;

d) conical flask of 10 ml nominal volume has been added;

e) round-bottom flasks of 10 ml, 25 ml, 5 l, 6 l and 10 l nominal volume have been added.

Laboratory glassware — Boiling flasks with conical ground joints

1 Scope

This International Standard specifies requirements for an internationally acceptable series of boiling flasks with conical ground joints for general laboratory purposes.

2 Normative references

The following referenced documents are indispensable for the application 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 383, *Laboratory glassware — Interchangeable conical ground joints*

ISO 1773, *Laboratory glassware — Narrow-necked boiling flasks*

ISO 3585, *Borosilicate glass 3.3 — Properties*

3 Types

Three types of boiling flasks with conical ground joints are specified:

a) conical flasks;

b) flat-bottom flasks;

c) round-bottom flasks.

4 Series of capacities

Two series are specified for each type of boiling flask with conical ground joints. The series differ in height and in selection of joint sizes. It is recommended that, in national standards, one of these series is chosen.

5 Material

Boiling flasks shall be made from borosilicate glass 3.3 in accordance with ISO 3585, and shall be free from visible defects which might affect performance and free from any internal stress which would impair the performance of the flask.

6 Dimensions

The external diameter of body of round-bottom flasks and flat-bottom flasks, the external diameter of body at the widest point of conical flasks and the minimum wall thickness shall comply with the dimensions specified in ISO 1773.

The nominal overall height of the boiling flasks with conical ground joints shall be as specified in Tables 1 to 3.

7 Ground glass joints

The sizes of the conical joints fitted to the boiling flasks shall be as given in Tables 1 to 3. The joints shall comply with the requirements of ISO 383, *k*6 series.

8 Marking

The following inscriptions shall be permanently and legibly marked on all laboratory boiling flasks with conical ground joints:

a) the nominal volume of the boiling flask, for example “100 ml”;

b) the size of the conical ground joint, for example “29/32”;

c) the manufacturer's and/or vendor's name and/or mark;

d) an area with a surface suitable for marking with a pencil.

It is recommended that reference be made on each flask to this International Standard, for example by the inscription “ISO 4797”.

Table 1 — Overall height and joint sizes for conical flasks

Nominal volume	Series 1		Series 2	
	Overall height	Joint sizes	Nominal overall height	Joint sizes
ml	mm		mm	
10	60 ± 3	14/23	—	—
25	70 ± 3	14/23 19/26	70	14/23 19/26
50	85 ± 6		85	14/23 19/26 24/29 29/32
100	100 ± 6	14/23 19/26 24/29 29/32	105	
250	140 ± 6	19/26 24/29 29/32	135	19/26 24/29 29/32 34/35
500	175 ± 6		170	
1 000	220 ± 7	24/29 29/32 34/35	210	24/29 29/32 34/35
2 000	270 ± 7		275	
3 000	—	—	310	34/35
5 000	—		365	45/40

Table 2 — Overall height and joint sizes for flat-bottom flasks

Nominal volume	Series 1		Series 2	
	Overall height	Joint sizes	Nominal overall height	Joint sizes
ml	mm		mm	
50	85 ± 3	19/26 29/32	85	19/26 24/29
100	103 ± 6		100	19/26 24/29
250	130 ± 6		125	29/32 34/35
500	160 ± 6	29/32	145	24/29
1 000	187 ± 6		175	29/32
2 000	230 ± 6		210	34/35
4 000	—	—	255	45/40

Table 3 — Overall height and joint sizes for round-bottom flasks

Nominal volume	Series 1		Series 2	
	Overall height	Joint sizes	Nominal overall height	Joint sizes
ml	mm		mm	
10	70 ± 3	14/23	—	—
25	85 ± 3			
50	90 ± 6	14/23 19/26 24/29 29/32	90	14/23 19/26
100	105 ± 6		110	29/32 24/29 34/35
250	140 ± 6	19/26 24/29 29/32	135	19/26 24/29 29/32 34/35
500	163 ± 6	24/29 29/32	155	19/26 24/29
1 000	200 ± 7		185	29/32 34/35
2 000	240 ± 7		220	45/40
4 000	290 ± 7	29/32 45/40	270	34/35 45/40
5 000	—	—	275	29/32 34/35 45/40
6 000	320 ± 7	45/40	325	45/40
10 000	380 ± 7	45/40	350	34/35 45/40

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