
International Standard



4797

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Laboratory glassware — Flasks with conical ground joints

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

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Descriptors : glassware, laboratory glassware, flasks, conical flasks, dimensions, marking, specifications.

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 4797 was developed by Technical Committee ISO/TC 48, *Laboratory glassware and related apparatus*, and was circulated to the member bodies in June 1979.

It has been approved by the member bodies of the following countries:

Australia	India	Netherlands
Czechoslovakia	Israel	Poland
France	Italy	South Africa, Rep. of
Germany, F. R.	Korea, Rep. of	United Kingdom
Hungary	Mexico	USSR

No member body expressed disapproval of the document.

Laboratory glassware — Flasks with conical ground joints

1 Scope and field of application

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

2 References

ISO 383, *Laboratory glassware — Interchangeable conical ground joints*.

ISO 1773, *Laboratory glassware — Boiling flasks (narrow-necked)*.

ISO 3585, *Glass plant, pipeline and fittings — Properties of borosilicate glass 3.3*.

3 Types

Three types of flask are specified :

- a) round-bottom flasks;
- b) flat-bottom flasks;
- c) conical flasks.

4 Series of capacities

Two series are specified for each type of round-bottom flask and flat-bottom flask. The series differ in height and in selection of joint sizes. It is recommended that, in national standards, one of these series be chosen.

For conical flasks, one series of heights is specified, each height having different joint sizes. It is recommended that, in national standards, a choice be made from these joint sizes.

5 Material

Flasks shall be constructed of borosilicate glass 3.3 according to ISO 3585. Internal stress and visible defects in the glass shall be reduced to a level sufficient to minimize the possibility of fracture due to thermal or mechanical shock.

6 Dimensions

The diameter 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 requirements of ISO 1773.

The recommended nominal overall heights of the flasks are shown in tables 1, 2 and 3.

NOTE — Recommended nominal overall heights of series 1 round-bottom flasks and flat-bottom flasks comply with those specified in ISO 1773.

7 Ground glass joints

The sizes of the conical joints fitted to the flasks shall be as given in tables 1, 2 and 3. The joints shall comply with the requirements of ISO 383, *k6* series.

8 Inscriptions

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

- a) the nominal capacity of the flask, for example "100 ml";
- b) the size of the conical ground joint;
- c) the maker's or vendor's name or mark;
- d) an area with a surface suitable for marking with a pencil.

Table 1 — Round-bottom flasks — Nominal overall height and joint sizes

Nominal capacity	Series 1		Series 2	
	Overall height	Joint size	Overall height	Joint size
ml	mm		mm	
50	105	14/23 19/26 29/32	95	14/23 19/26 24/29 29/32
100	115		110	
250	145	29/32 45/40	135	19/26 24/29 29/32
500	175		160	24/29 29/32 34/35
1 000	210		190	
2 000	260		230	
4 000	315	45/40	275	34/35 45/40

Table 2 — Flat-bottom flasks — Nominal overall height and joint sizes

Nominal capacity	Series 1		Series 2	
	Overall height	Joint size	Overall height	Joint size
ml	mm		mm	
50	100	14/23 19/26 29/32	85	14/23 19/26 24/29 29/32
100	110		100	
250	140	29/32 45/40	125	19/26 24/29 29/32
500	170		150	24/29 29/32 34/35
1 000	200		175	
2 000	250		215	
4 000	300	45/40	255	34/35 45/40

Table 3 — Conical flasks — Nominal overall height and joint sizes

Nominal capacity	Overall height	Joint size
ml	mm	
25	70	14/23 19/26
50	85	14/23 19/26 24/29 29/32
100	105	
250	135	19/26 24/29 29/32
500	170	24/29 29/32 34/35
1 000	215	
2 000	275	
3 000	310	34/35
5 000	365	45/40