SLOVENSKI STANDARD
SIST ISO 6414:1995

01-junij-1995

Tehniļ ne risbe steklenih delov

Technical drawings for glassware

Dessins techniques de verrerie

Ta slovenski standard je istoveten z: **ISO 6414:1982**

ICS:

01.100.99	Drugi standardi v zvezi s tehniļ nim risanjem	Other standards related to technical drawings

SIST ISO 6414:1995 **en**

International Standard 6414

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION•МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ•ORGANISATION INTERNATIONALE DE NORMALISATION

Technical drawings for glassware

Dessins techniques de verrerie

First edition — 1982-02-01

UDC 744.4 : 542.2 **Ref. No. ISO 6414-1982 (E)**

Descriptors : technical drawings, glassware, laboratory glassware, generalities, graphic methods.

Price based on 6 pages

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 6414 was developed by Technical Committee ISO/TC 10, *Technical drawings*, and was circulated to the member bodies in January 1980.

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

Australia	Germany, F. R.	Philippines
Austria	Hungary	Poland
Belgium	India	Romania
Brazil	Italy	South Africa, Rep. of
Canada	Japan	Spain
Czechoslovakia	Korea, Rep. of	Switzerland
Denmark	Mexico	United Kingdom
Finland	Netherlands	USA
France	Norway	USSR

No member body expressed disapproval of the document.

Printed in Switzerland

Technical drawings for glassware

0 Introduction

In this International Standard the figures merely illustrate the text and should not be considered as design examples. For this reason the figures are simplified and are not to scale.

For uniformity all figures in this International Standard are in first angle projection. It should be understood that alternative projection methods could have been used without prejudice to the principles established.

1 Scope and field of application

This International Standard establishes rules and conventions for particular use with drawings for technical glassware, for example laboratory glassware or glassware used in other technical fields.

Optical parts are not however, included herein.

2 References

ISO 128, *Technical drawings — General principles of presentation.*

ISO 129, *Technical drawings — Dimensioning.*[1)]

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

ISO 641, *Laboratory glassware — Interchangeable spherical ground joints.*

ISO 1302, *Technical drawings — Method of indicating surface texture on drawings.*

ISO 4793, *Laboratory sintered (fritted) filters — Porosity grading, classification and designation.*

For additional information, see the annex.

3 General

3.1 As a general principle, all glassware shall be drawn as if it were non-transparent (opaque), see ISO 128.

3.2 In order to meet particular requirements for the design and manufacture of glassware, additional rules and conventions are specified in the following clauses.

4 Sections

4.1 Small sections may be blackened, provided that the distance between their outlines on the actual drawing is not larger than 3 mm. If larger, the section shall be hatched. For thin-walled parts, see 6.1.

4.2 Parts of different materials such as glass-metal seals which are fused together and shown in section, shall be hatched differently (see figure 1).

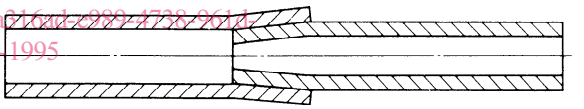


Figure 1

5 Treated parts

5.1 Treated surfaces (for example ground, silver-plated, etched) shall be indicated in accordance with ISO 128, ISO 129 and ISO 1302 (see figure 2).

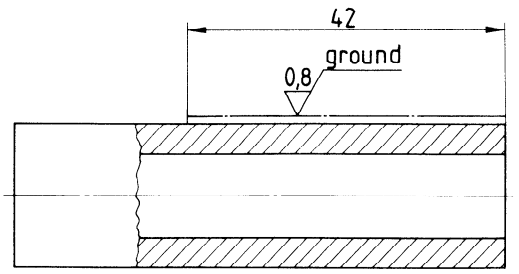


Figure 2

1) At present at the stage of draft. (Revision of ISO/R 129-1959.)

5.2 Interchangeable conical or spherical ground joints complying with the requirements of ISO 383 and ISO 641 respectively, shall be designated in the manner described therein. Accordingly, no detailed dimensioning of that portion and no indication of the surface finish are required.

An example of a code identification for interchangeable conical ground joints is shown in figure 3.

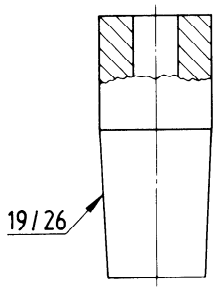


Figure 3

6 Thin walls

6.1 When drawn in section, thin walls shall be represented, in spite of their real wall thickness, by lines with a thickness of at least twice that used for visible outlines (see figures 4 and 5, and 4.1).

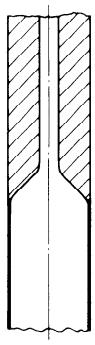


Figure 4

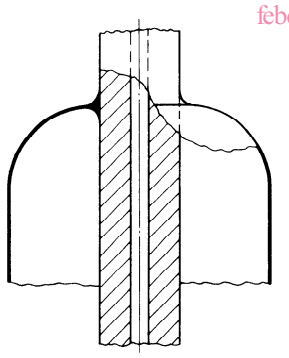


Figure 5

6.2 Unless otherwise specified (see 6.3), the dimension shown for the diameter of thin walls shall be the external diameter (see figures 6 and 7). The method to be applied depends on the particular requirement of the drawing.

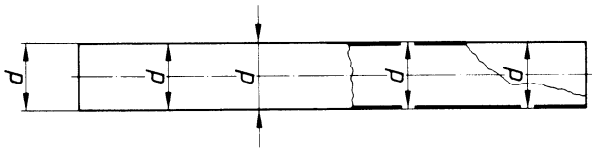


Figure 6

If it is necessary to specify the wall thickness, this shall be done as shown in figure 7.

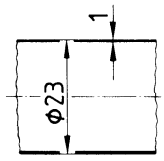


Figure 7

6.3 Internal diameters shall always be designated with the letters "int." (see figure 8).

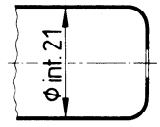


Figure 8

7 Tubes

7.1 Ends of tubes with special features (for example holes or closed ends) shall be drawn in section (see figure 8).

7.2 Coiled tubes represented in section or in view, may be drawn in a simplified manner (see figures 9 and 10). Their dimensioning should be determined by the functional requirements or the method of manufacture.

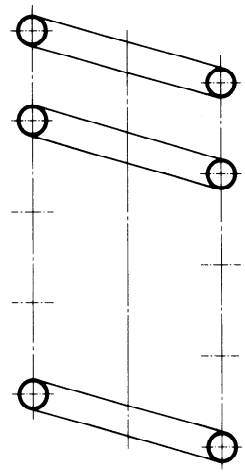
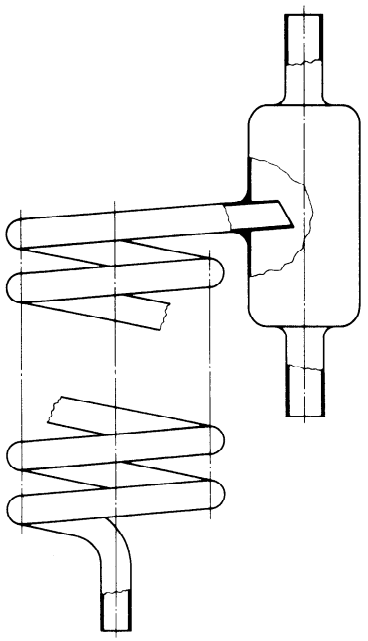


Figure 9



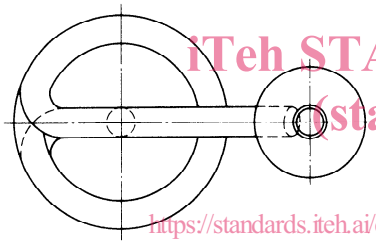


Figure 10

8 Sintered filters

When drawn in section sintered filters are indicated in a simplified manner by means of random dotting[1] (see figure 11). Any other details shall be indicated separately in accordance with ISO 4793.

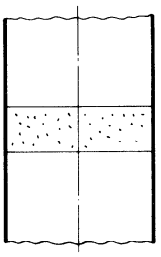


Figure 11

9 Joints

9.1 Where fused joints are to be shown in section, indicate the joint as shown in figure 12.

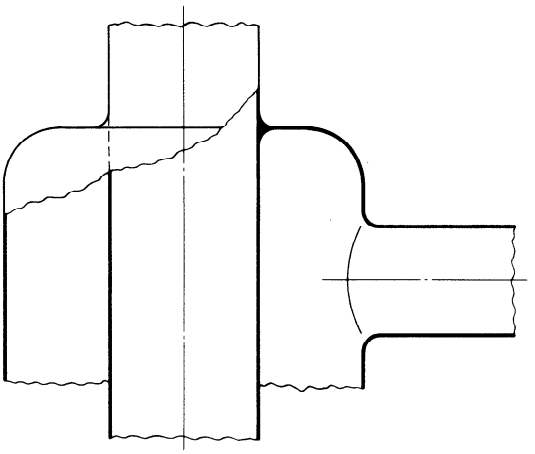


Figure 12

9.2 Where joints are cemented, the specification of the adhesive should be indicated as shown in figure 13.

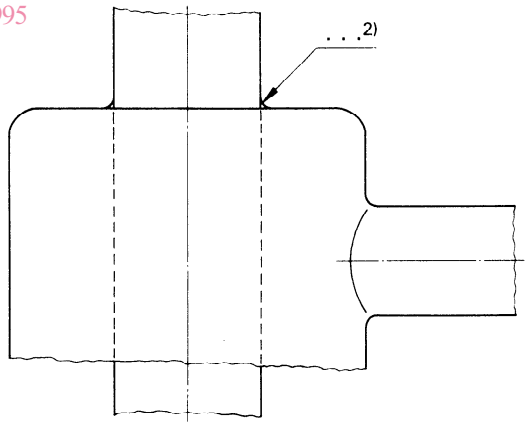


Figure 13

1) In order to permit copying of any drawing, the dotting shall be very clear.

2) Specification of the adhesive.

9.3 Removable parts such as stop-cocks, stirrers, and gland assemblies shall be drawn clearly spaced from each other as shown in figures 14, 15 and 16. This will avoid ambiguity as to whether the parts are or are not fused together.

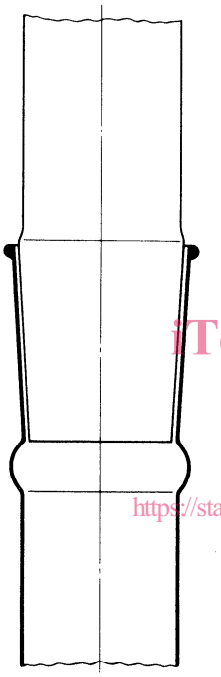


Figure 14

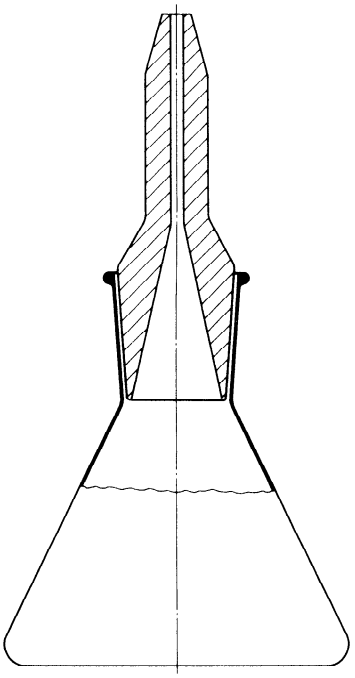


Figure 15

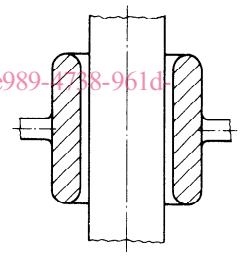


Figure 16

10 Composite glassware

When it is necessary to represent in detail one or more component parts of composite glassware which consists of sealed parts, the drawing of the complete composite glassware may be simplified by separating the details with their dimensions for drawing clarity, as shown in figure 17.

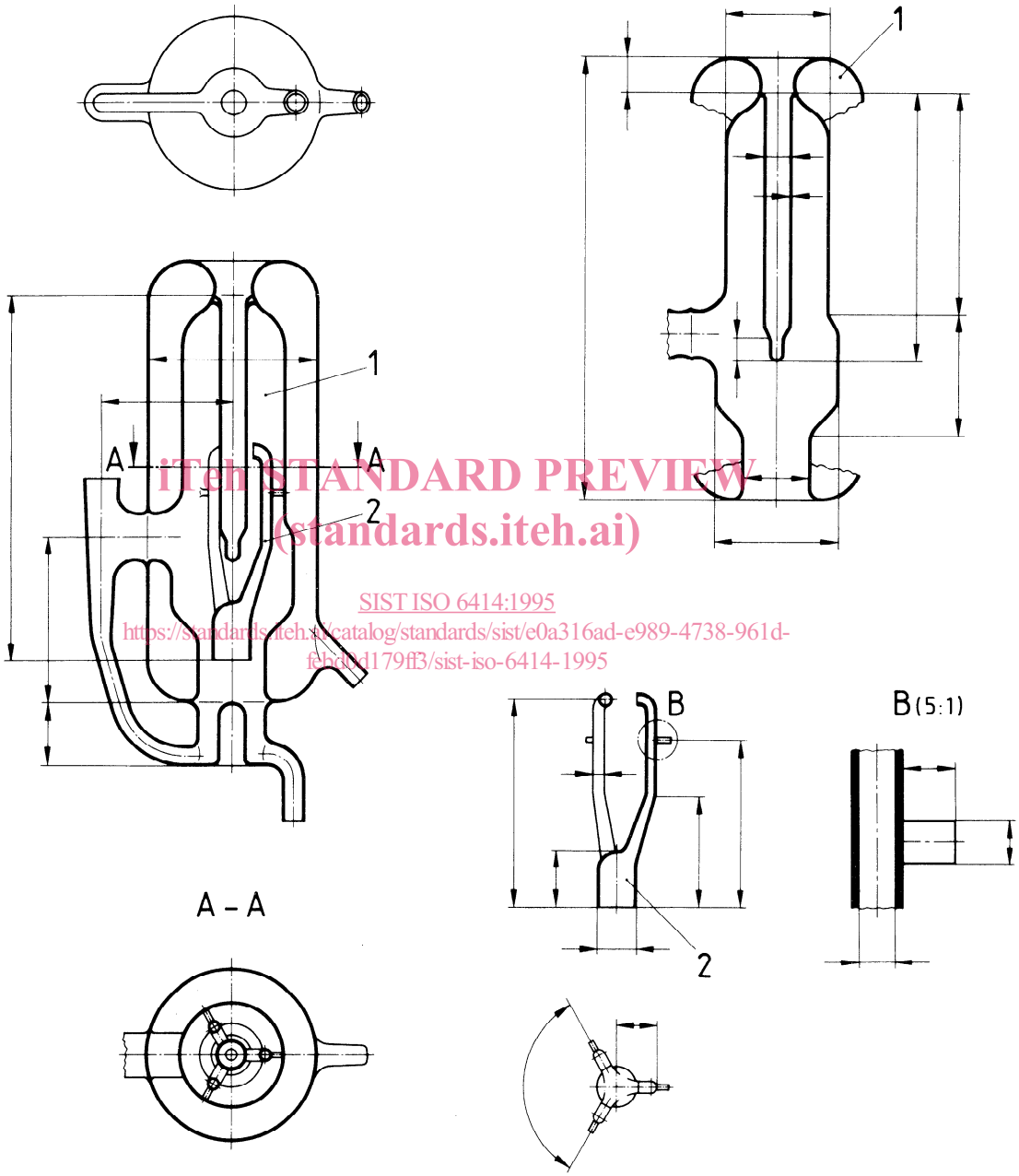


Figure 17