INTERNATIONAL STANDARD

ISO
9175-1
First edition
1988-11-01

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

Tubular tips for hand-held technical pens using India ink on tracing paper —

Part 1:
Definitions, dimensions, designation and marking

Pointes tubulaires pour plumes tubulaires et instruments de dessin à main à encre de Chine, utilisés sur papier calque —

Partie 1: Définitions, dimensions, désignation et marquage

Reference number
ISO 9175-1 : 1988 (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.

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. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 9175-1 was prepared by Technical Committee ISO/TC 10, *Technical drawings*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

Printed in Switzerland

Tubular tips for hand-held technical pens using India ink on tracing paper —

Part 1:
Definitions, dimensions, designation and marking

1 Scope and field of application

This part of ISO 9175 specifies the dimensions for tubular tips for hand-held technical pens using India ink on tracing paper, irrespective of their design and manufacture, to ensure consistent line thickness within predetermined specifications, with or without lettering guides and templates.

It applies to commonly used draughting operations such as tracing, writing and lettering.

2 References

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

ISO 9175-2, *Tubular tips for hand-held technical pens using India ink on tracing paper — Part 2: Performance, test parameters and test conditions.*

3 Definitions

For the purposes of this part of ISO 9175, the following definitions apply.

3.1 tubular tip: Component of a tubular technical pen for delivery of India ink from a supply tank to the tracing paper and having as its distinguishing characteristics

a) a stepped tube of specified length and diameter (see the figure), and

b) a freely movable wire within the tube for controlling the ink flow.

3.2 tubular technical pen: Hand-held instrument utilizing India ink and having as its distinguishing characteristics

a) a tubular tip,

b) a reservoir or cartridge, and

c) an ink feed system,

preferably used for drawing operations.

3.3 reservoir: A fixed component consisting of a rigid or semi-rigid structure to be filled with India ink. A reservoir is intended to be refilled from a bulk supply.

3.4 cartridge: Disposable container for the India ink supply, to be detached when empty and replaced by a new full container.

3.5 ink feed system: Means of providing, under predetermined ambient conditions,

a) a mark of constant line thickness, at predetermined line generation rates varying within given limits, and

b) protection against leakage of India ink.

4 Design and dimensions

Tubular tips need not be identical to that shown in the figure.

However, the dimensions indicated on the figure and given in the table shall be adhered to.

5 Performance

The stepped tube shall be such that its performance conforms with the specifications of ISO 9175-2.

6 Designation

The designation of tubular tips shall consist of

a) the block descriptor "Tubular tip";

b) reference to this part of ISO 9175;

c) the line thickness, in millimetres.

Example:

Designation of a tubular tip for a line thickness of 0,7 mm:

Tubular tip ISO 9175-1-0,7

7 Marking

Tubular tips for technical pens that comply with this part of ISO 9175 shall be marked on a component firmly secured to the tubular tip with the line thickness, in accordance with clause 6, or the colour code or preferably both (see the table).

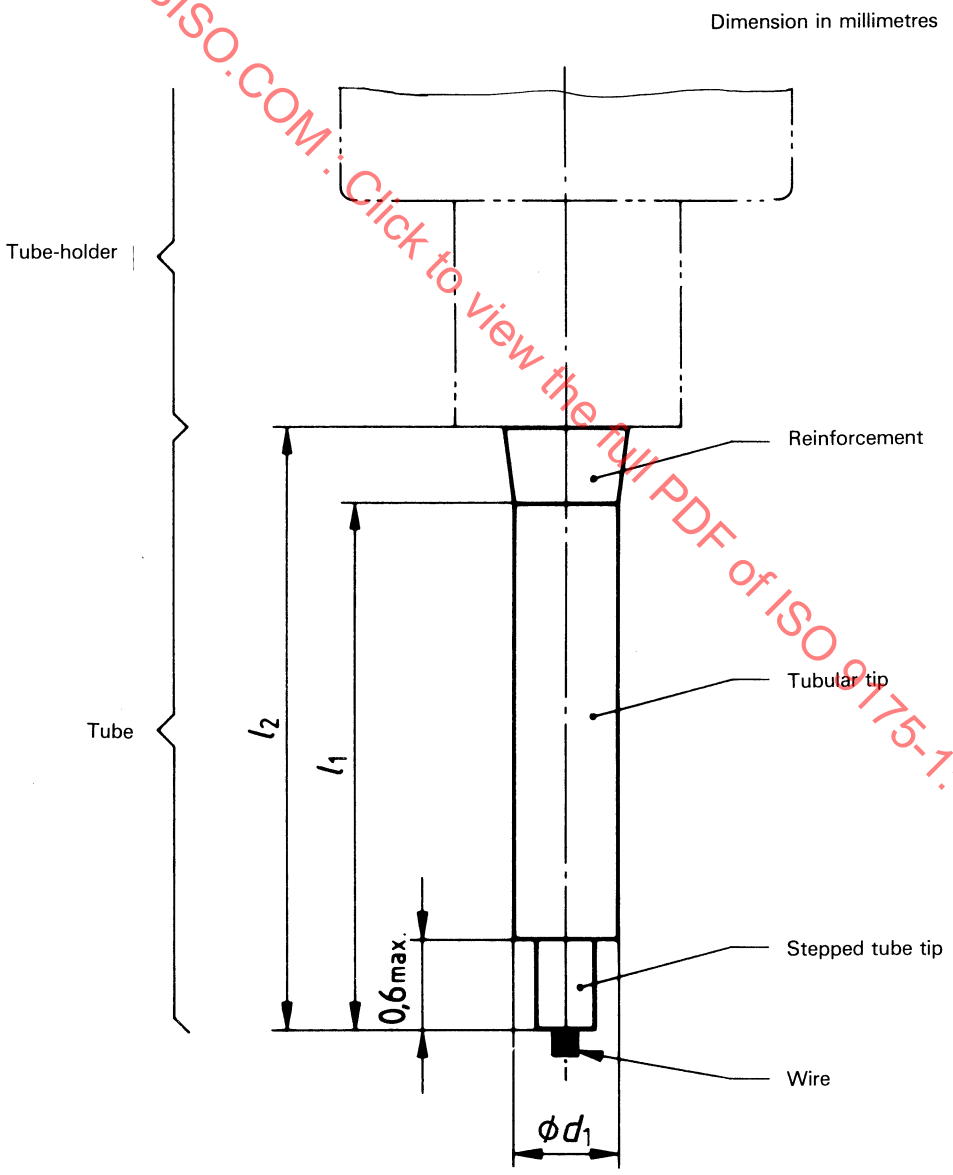

Figure — Tubular tip (enlarged view) and associated features

Table — Dimensions of tubular tips

Dimensions in millimetres

Line thickness[1]	d_1 nom.	d_1 permissible tolerance	l_1 min.	l_2[2] min.	Colour code
0,13[3]	0,35	0 −0,03	3	4	Violet
0,18	0,35				Red
0,25	0,35				White
0,35	0,5		3,5		Yellow
0,5	0,7				Brown
0,7	1				Blue
1	1,4	0 −0,06			Orange
1,4	2				Green
2	2,8				Grey

1) According to ISO 128.

2) Tubular tips for line thicknesses of 0,13, 0,18 and 0,25 mm may require reinforcement of the tube between l_1 and l_2.

3) Not considered in ISO 128.

This page intentionally left blank