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Laryngoscopic fittings —

Part 2:

Miniature electric lamps — Screw threads and sockets for conventional blades

Éléments de laryngoscopes —

Partie 2: Lampes électriques miniatures — Filetages et douilles pour lames conventionnelles



Reference number
ISO 7376-2:1997(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.

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.

This second edition cancels and replaces the first edition (ISO 7376-2:1984), which has been technically revised.

International Standard ISO 7376-2 was prepared by Technical Committee ISO/TC 121, *Anaesthetic and respiratory equipment*, Subcommittee SC 2, *Tracheal tubes and other equipment*.

ISO 7376 consists of the following parts, under the general title *Laryngoscopic fittings*

- *Part 1: Conventional hook-on type handle-blade fittings*
- *Part 2: Miniature electric lamps — Screw threads and sockets for conventional blades*
- *Part 3: Fibre-illuminated re-usable rigid laryngoscopes*

Annex A is for information only.

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Introduction

This part of ISO 7376 has been prepared in order to specify screw threads for miniature electric lamps and lamp sockets used in laryngoscope blades as described in ISO 7376-1, to ensure the interchangeability of lamps in laryngoscopic blades made by different manufacturers. The screw thread dimensions as given in 5.2 and 6.2 are in inch systems because the most prevalent lamp and socket thread systems used in rigid laryngoscopes for the past 50 years have conformed to published inch thread standards.

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Laryngoscopic fittings — Part 2: Miniature electric lamps — Screw threads and sockets for conventional blades

1 Scope

This part of ISO 7376 specifies requirements for screw threads for miniature electric lamps and lamp sockets used in laryngoscopic blades as described in ISO 7376-1. The contact, form and general dimensions of these lamps are also specified.

2 Normative reference

The following standard contains provisions, which, through reference in this text, constitute provisions of this part of ISO 7376. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this part of ISO 7376 are encouraged to investigate the possibility of applying the most recent edition of the standard listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 5864: 1993, *ISO inch screw threads - Allowances and tolerances*

3 Definitions

For the purposes of this part of ISO 7376, the following definitions apply:

3.1 lamp

Electric filament bulb intended to provide illumination during laryngoscopy.

[ISO 4135:1995]

3.2 metal cap

Metallic outer housing of the lamp which provides electrical contact and mechanical engagement of the lamp by means of a male screw thread.

[ISO 4135: 1995]

3.3 socket

Component with a female screw thread attached to a laryngoscope blade and intended to provide electrical contact and mechanical engagement with a lamp.

[ISO 4135:1995]

4 Materials

Components of electrical contacts shall be made of corrosion-resistant electroconductive materials to ensure durability and continuity in the circuit between the socket and the lamp.

NOTE It is recommended that materials and design be such that the assembled laryngoscope blade is autoclaveable.

5 Electric lamp

5.1 Metal cap and base contact

5.1.1 The metal cap and base contact of the electric lamp, including insulation and seal, shall be in accordance with figure 1 and table 1.

5.1.2 The outside of the metal cap shall be designed to facilitate insertion and removal of the lamp from the socket.

5.1.3 The base contact of the lamp shall be rigidly mounted and shall be capable of withstanding the axial force applied during insertion of the lamp. All dimensions, except for those occurring when seals are compressed, shall remain unchanged under normal use.

5.2 Screw thread for lamp

5.2.1 The screw thread of the metal cap for small lamps shall have the nominal size and designation of 1/8-72 UN-3A and shall be designed in accordance with ISO 5864.

5.2.2 The screw thread of the metal cap for large lamps shall have the nominal size and designation of No. 8-32 UNC 2A and shall be designed in accordance with ISO 5864.

6 Sockets

6.1 Dimensions and centre contact

6.1.1 The socket dimensions shall be in accordance with figure 1 and table 1.

6.1.2 When the lamp is unscrewed it shall cease to be lit at least 1,5 turns prior to disengagement of the lamp from the socket.

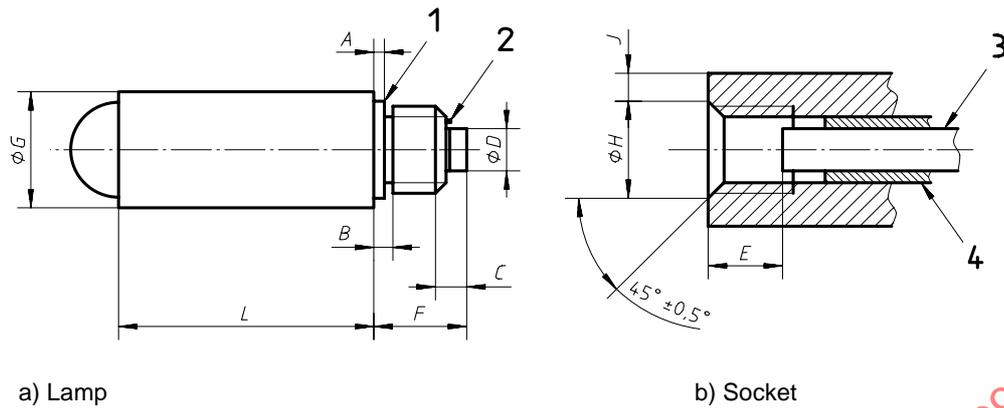
NOTE The socket should provide a grip which resists rotation of the lamp once screwed in position.

6.1.3 The centre contact shall have a mechanism for maintaining electrical contact with the lamp (for example, a spring).

6.2 Internal screw thread for socket

6.2.1 The internal screw thread of the socket for small lamps shall have the nominal size and designation of 1/8-72 UN-3B and shall be designed in accordance with ISO 5864.

6.2.2 The internal screw thread of the socket for large lamps shall have the nominal size and designation of No. 8-32 UNC-2B and shall be designed in accordance with ISO 5864.



- 1 Seal C is the distance to the start of the full thread.
- 2 Lamp insulator E is the depth of the electrical contact in the socket prior to lamp insertion.
- 3 Centre contact H is the outside diameter of the socket thread chamfer.
- 4 Socket insulator J is the minimum width of the flat sealing face.

NOTE 1 Electrical continuity of the contacts for the small lamp is ensured when the sealing washer is compressed by $(35 \pm 10) \%$ during installation.

NOTE 2 Electrical continuity of the contacts for the large lamp is ensured when either the sealing washer is compressed by $(15 \pm 5) \%$ or the O-seal is compressed by $(65 \pm 5) \%$ during installation.

Figure 1 — Lamp and socket dimensions (see also table 1)

Table 1 — Lamp and socket dimensions (see also figure 1)

Dimensions in millimetres

| Size | A | | B | C | D | E | F | G | H | J | L |
|------------------------------|--------------|----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------|---------------|
| | Washer | O-seal | | | | | | | | | |
| Small 1/8"- 72 UN | 0,5 ± 0,1 | | 0,8 ± 0,2 | 1,0 ± 0,2 | 1,4 ± 0,4 | 2,6 ± 0,4 | 4,0 ± 0,3 | 4,3 ± 0,2 | 3,7 ± 0,2 | 0,2 min. | 11,5 ± 2,5 |
| Large No. 8- 32 UNC | 0,5 ± 0,1 | ∅ 0,9 ± 0,05 section | 0,9 ± 0,2 | 1,2 ± 0,2 | 2,0 ± 0,5 | 3,5 ± 0,4 | 4,9 ± 0,3 | 5,5 ± 0,5 | 4,6 ± 0,2 | 0,2 min. | 12 ± 2,5 |

NOTE — All angles shall have a tolerance of $\pm 0,5^\circ$.

Annex A
(informative)

Bibliography

- [1] ISO 4135:1995, *Anaesthesiology— Vocabulary*
- [2] ISO 7376-1:1994, *Laryngoscopic fittings — Part 1: Conventional hook-on type handle-blade fittings*

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