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Pliers and nippers — General technical requirements

Pinces et tenailles — Spécifications techniques générales

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 29, *Small tools*, Subcommittee SC 10, *Assembly tools for screws and nuts, pliers and nippers*.

This fourth edition cancels and replaces the third edition (ISO 5743:2004), which has been technically revised.

The main changes are as follows:

— requirements against accidental pinching of the hands are more specific.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Pliers and nippers — General technical requirements

1 Scope

This document specifies the general technical requirements to be met by pliers and nippers.

It does not specify insulating or antistatic characteristics of handle coatings. Plastic coatings or plastic sleeves are intended for gripping comfort only.

This document is only applicable to pliers for which ISO standards exist.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 5742, *Pliers and nippers — Nomenclature*

ISO 5744, *Pliers and nippers — Methods of test*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

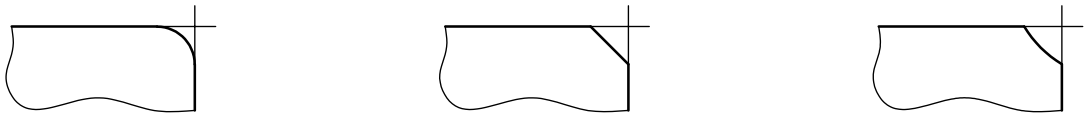
— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

4 Handles

Handles of pliers shall be shaped to afford a comfortable grip and shall prevent accidental bruising or clamping.

To prevent bruising of skin, clear-cut edges should be avoided, e.g. by designing the edges of the gripping zone with a radius, bevel or chamfer > 2 mm (see Figure 1) or similar solutions with a distance between the handles smaller than 10 mm.



a) With radius **b) With bevel** **c) With chamfer**

Figure 1 — Possible edge designs for pliers' handles

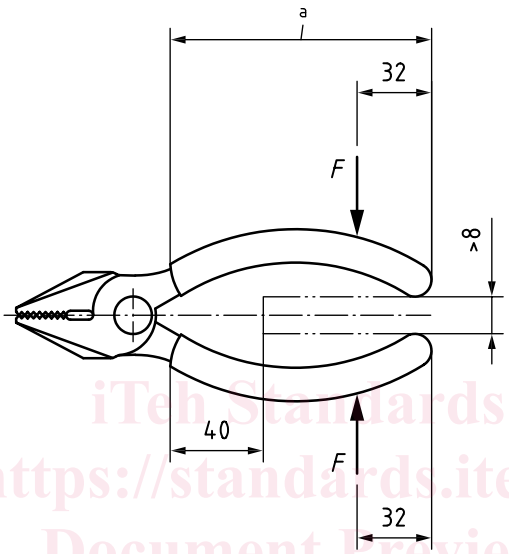
To avoid bruising of skin and clamping of fingers, pliers having a nominal length > 160 mm shall always have a minimum gap of 8 mm width between the handles in the outer areas of the handles. This outer

area starts 40 mm outwards from the anterior end of the gripping zone (see Figure 2 and Figure 3 for examples).

NOTE Concerning pliers having a nominal length shorter than 160 mm, the operational forces applied to the pliers handles are expected to stay below a level that can be a reason of serious harm.

For pliers' handles being covered by a layer of plastic material of nearly consistent thickness, the area covered by the plastic is regarded as being the gripping zone. For pliers' handles equipped with shaped grips featuring a kind of collar or bulge at the front end, the gripping zone (see footnote [a] in Figure 2 and Figure 3) is the area outwards from the collar or bulge. For pliers' handles showing no clearly defined gripping zone, the outer 90 mm of the handles are regarded as gripping zone.

Dimensions in millimetres



Key

F hand force

[a] Gripping zone.

Figure 2 — Gripping zone on an engineer's pliers (see ISO 5746)