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Dentistry — Graphical symbols for dental instruments

Art dentaire — Symboles graphiques pour instruments dentaires

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Contents

Page

Foreword iv
Introduction v
1 Scope 1
2 Normative references 1
3 Terms and definitions 1
4 Requirements 2
4.1 General 2
4.2 Use of graphical symbols 2
4.3 Size of symbols 2
4.4 Representation of names of languages and dates 2
5 Graphical symbols 3
Bibliography 13

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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.

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.

ISO 21531 was prepared by Technical Committee ISO/TC 106, *Dentistry*, Subcommittee SC 4, *Dental instruments*.

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Introduction

Graphical symbols are used in many areas of daily life. They give necessary and useful information of many kinds in a visual way. They are used as signals (warning or alarm signals), for general information, as a means of control, for the correct application of machines, instruments, etc. and in may other ways of communication.

Their content of information is very often superior to verbal explanations because their information is visually acknowledged instantly and is often kept in memory easier and longer than terms or phonetic explanations.

Graphical symbols are internationally understandable without sometimes difficult, possibly misleading and costly translations.

Each ISO technical committee is responsible for the selection or creation of graphical symbols within its own field of interest. Graphical symbols may form the main subject of an International Standard, or a single symbol or several symbols may appear as part of a standard covering wider aspects of the subject to which the symbol(s) refer(s).

The ISO Technical Management Board has assigned overall responsibility for standardization in the field of graphical symbols to ISO/TC 145, *Graphical symbols*, and to ISO/TC 10/SC 10, *Technical product documentation (tpd) symbols*.

ISO/TC 210, *Quality management and corresponding aspects for medical devices*, which is responsible for the development of ISO 15233, has prepared an international guide to the development and registration of symbols for use in the labelling of medical devices. This guideline recommends that the proliferation of graphical symbols without international harmonization is undesirable and contrary to these objectives.

There is a need for simple, internationally accepted graphical symbols labelling that provide general and specific information to the user in a manner that overcomes the limitations of languages. It is in the best interests of safety and health of patients, dentists, dental technicians and other persons, to reduce the confusion inherent in the use of multiple language labelling. Both of these objectives can be met by the use of standardized symbols agreed by consensus on an international basis.

The task of determining technical requirements to allow the use of specific symbols is best taken up by bodies expert in the relevant areas. ISO/TC 106/SC 4/WG 5, *Number coding system*, has taken up this responsibility by developing this International Standard.

This International Standard has been prepared to reduce the need for multiple translations of words into national languages, to simplify labelling whereever possible and to prevent separate development of different symbols to convey the same information.

This International Standard contains a series of symbols (pictograms) for use in dentistry. Their application should be considered in the literature, for the labelling and packaging of devices used in dentistry, on items of dental equipment and instruments. Their use is unlimited and a most helpful means of communication within dentistry.

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Dentistry — Graphical symbols for dental instruments

1 Scope

This International Standard presents a series of graphical symbols for dental instruments. They are set out particularly for this area of dentistry or corresponding specific areas within dentistry. General symbols are taken from relevant ISO, IEC or other international documents. Several new symbols presented by manufacturers or users have been added.

Because many dental products are considered in some cases as medical devices and in some cases not as medical devices, in dentistry the restricted usage of the symbols specified in ISO 15223 is considered as not practical. It is the intention of this International Standard to expand the application area of some graphical symbols specified in ISO 15223 to the whole area of dentistry. Therefore these symbols are listed in this International Standard together with their source document.

NOTE In addition to terms used in two of the three official ISO languages (English, French and Russian), this International Standard gives the equivalent terms in the German language; these are published under the responsibility of the member body for Germany (DIN). However, only the terms given in the official languages can be considered as ISO terms.

2 Normative references

The following referenced documents are indispensable for the application 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 639-1, *Codes for the representation of names of languages — Part 1: Alpha-2 code*

ISO 1942, *Dentistry — Vocabulary*

ISO 8601, *Data elements and interchange formats — Information interchange — Representation of dates and times*

ISO 17724, *Graphical symbols — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 1942 and in ISO 17724 apply.

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4 Requirements

4.1 General

Graphical symbols used to convey the information given in Clause 5 are given in this International Standard.

For the user of this International Standard, in order to arrange all symbols necessary for dental products in one International Standard, some symbols defined by other International Standards are given for information purposes together with a reference to the respective International Standard.

Each symbol may be used with a surrounding square.

NOTE It is very common in dental practice for symbols used in close proximity to each other to be individually enclosed by a surrounding shape (such as a square) in order to create a clear visual differentiation of where one symbol ends and another begins.

4.2 Use of graphical symbols

These graphical symbols are intended to replace text, e.g. on the labels of dental devices and accessories. The use of symbols presented in the tables below is up to the discretion of the manufacturer. These symbols can be used for labelling of the packaging of dental devices and accessories, in the manufacturer's instructions for use, in catalogues and leaflets and for similar purposes. The use of these symbols is possible without further explanation of the symbols in the accompanying text.

4.3 Size of symbols

All graphical symbols and accompanying information shall be legible when viewed under an illumination of 215 lx using normal vision without magnification at a distance that takes into account the specifics and size of the individual dental device and/or its package.

NOTE 1 Colours and minimum dimensions are not specified in this International Standard.

NOTE 2 The meaning of each graphical symbol may depend upon its orientation in a given reference system and care should be taken to avoid ambiguity (e.g. by rotating or mirroring).

4.4 Representation of names of languages and dates

The language code used for the representation of names of languages is the two-letter code (alpha-2 code) in accordance with ISO 639-1.

The data code used for representation of dates is in accordance with ISO 8601.

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5 Graphical symbols

Table 1 — Symbols for specific areas of dentistry

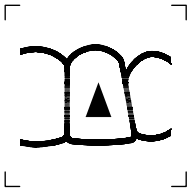
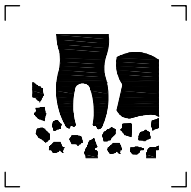
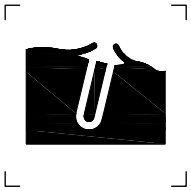
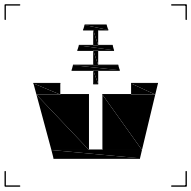
N°	Symbol	Title/description/application	ISO/IEC registration No.
1		en: prophylaxis fr: prophylaxie de: Prophylaxe	ISO 7000-2851
2		en: orthodontics fr: orthodontie de: Kieferorthopädie	ISO 7000-2852
3		en: jaw surgery fr: chirurgie maxillo-faciale de: Kieferchirurgie	ISO 7000-2853
4		en: implantology fr: implantologie de: Implantologie	ISO 7000-2854
5		en: post system fr: système à pivot de: Aufbaustiftsystem	ISO 7000-2855

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Table 2 — Symbols for working procedures used by dentists

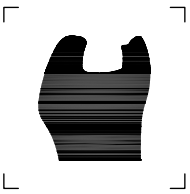
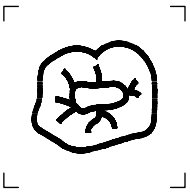
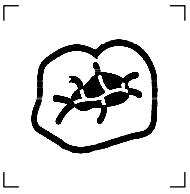
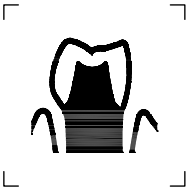
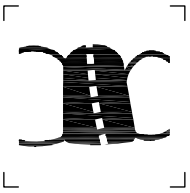
N°	Symbol	Title/description/application	ISO/IEC registration No.
6		en: cavity preparation fr: préparation de la cavité de: Kavitätenpräparation	ISO 7000-2856
7		en: removal of old fillings fr: retrait de vieilles obturations de: Ausbohren alter Füllungen	ISO 7000-2857
8		en: working on fillings fr: préparation d'obturations de: Füllungsbearbeitung	ISO 7000-2858
9		en: crown preparation fr: préparation coronaire de: Kronenpräparation	ISO 7000-2859
10		en: crown cutting fr: séparation des couronnes de: Kronentrennen	ISO 7000-2860
11		en: root canal preparation fr: traitement endodontique de: Wurzelkanalaufbereitung	ISO 7000-2861
12		en: root planing fr: surfaçage radiculaire de: Wurzelglättung	ISO 7000-2862

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Table 3 — Symbols for working procedures used by dental technicians

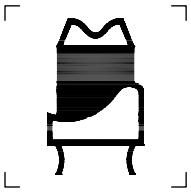
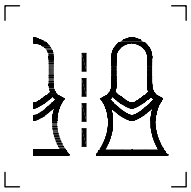
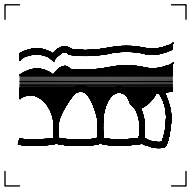
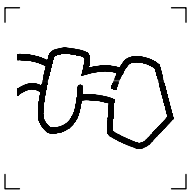
N°	Symbol	Title/description/application	ISO/IEC registration No.
13		en: precision technique fr: technique de précision de: Feinwerktechnik	ISO 7000-2863
14		en: mould casting technique fr: technique de coulée de: Modellgusstechnik	ISO 7000-2864
15		en: model fabrication fr: fabrication de modèle de: Modellherstellung	ISO 7000-2865
16		en: acrylic technique fr: technique acrylique de: Kunststofftechnik	ISO 7000-2866
17		en: crown and bridge technique fr: technique des couronnes et bridges de: Kronen- und Brückentechnik	ISO 7000-2867

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Table 4 — Symbols for cleaning, disinfection and sterilization

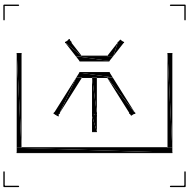
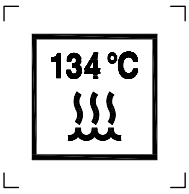
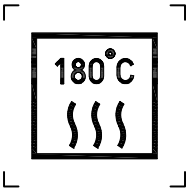
N°	Symbol	Title/description/application	ISO/IEC registration No.
18		en: ultrasonic bath fr: bain à ultrasons de: Ultraschallbad	ISO 7000-2784
19		en: washer-disinfector for thermal disinfection fr: laveur-désinfecteur pour désinfection thermique de: Reinigungs-/Desinfektionsgerät für die thermische Desinfektion	ISO 7000-2785
20	 In the symbol a number shall be inserted indicating the specified temperature. NOTE The temperature of 134 °C is given only as an example.	en: sterilizable in a steam sterilizer (autoclave) at the temperature specified fr: stérilisable dans un stérilisateur à vapeur d'eau (autoclave) à la température spécifiée de: sterilisierbar im Dampf-Sterilisator (Autoklav) bei der angegebenen Temperatur	ISO 7000-2868
21	 In the symbol a number shall be inserted indicating the specified temperature. NOTE The temperature of 180 °C is given only as an example.	en: sterilizable up to the temperature specified fr: stérilisable à la température spécifiée de: sterilisierbar bei der angegebenen Temperatur	ISO 7000-1844
22		en: sterile fr: stérile de: steril	ISO 7000-2499

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Table 4 (*continued*)

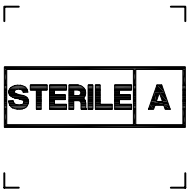
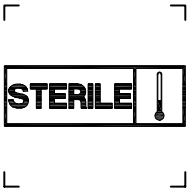
N°	Symbol	Title/description/application	ISO/IEC registration No.
23		en: sterilized using aseptic processing techniques fr: stérilisé par technique aseptisée de: steril durch Anwendung aseptischer Verfahrenstechniken	ISO 7000-2500
24		en: sterilized using ethylene oxide fr: stérilisé par de l'oxyde d'éthylène de: Sterilisation mit Ethylenoxid	ISO 7000-2501
25		en: sterilized using irradiation fr: stérilisé par irradiation de: Sterilisation durch Bestrahlung	ISO 7000-2502
26		en: sterilized using steam or dry heat fr: stérilisé par la vapeur d'eau ou la chaleur sèche de: Sterilisation mit Dampf oder trockener Wärme	ISO 7000-2503

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Table 5 — Symbols for disinfectants used for hygienic purposes

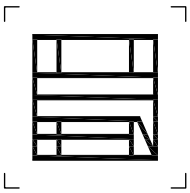
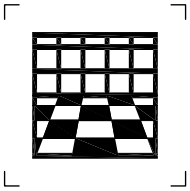
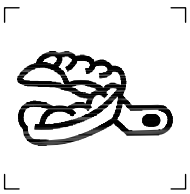
N°	Symbol	Title/description/application	ISO/IEC registration No.
27		en: disinfectant for hand wash fr: désinfectant pour les mains de: Desinfektionsmittel für Hände	ISO 7000-2786
28		en: disinfectant for hand-held and rotary instruments fr: désinfectant pour instruments dentaires à main et rotatifs de: Desinfektionsmittel für Handinstrumente und rotierende Instrumente	ISO 7000-2787
29		en: disinfectant for work surfaces fr: désinfectant pour surfaces de travail de: Desinfektionsmittel für Arbeitsflächen	ISO 7000-2788
30		en: disinfectant for floor and walls fr: désinfectant pour sol et murs de: Desinfektionsmittel für Boden und Wände	ISO 7000-2789
31		en: disinfectant for dental impression materials fr: désinfectant pour empreintes dentaires de: Desinfektionsmittel für dentale Abformmassen	ISO 7000-2790

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Table 6 — Symbols for miscellaneous

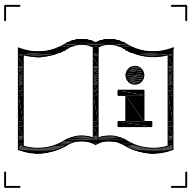
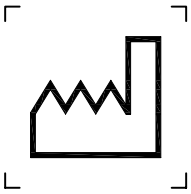
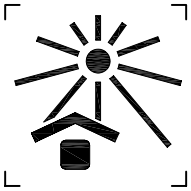
N°	Symbol	Title/description/application	ISO/IEC registration No.
32		en: caution, consult accompanying documents fr: attention, voir document accompagnant de: Achtung, Begleitdokumente beachten NOTE Synonym for "caution, consult accompanying documents" is "attention, see instructions for use".	ISO 7000-0434 A
33		en: consult instructions for use fr: consulter le manuel d'utilisation de: Gebrauchsanweisung beachten NOTE Synonym for "consult instructions for use" is "consult operating instructions".	ISO 7000-1641
34	 The symbol shall be accompanied by the date that the device was manufactured. Date formats shall be in accordance with ISO 8601 (e.g. 2006-12-01).	en: date of manufacture fr: date de fabrication de: Herstellungsdatum	ISO 7000-2497
35		en: keep dry fr: conserver au sec de: trocken aufbewahren	ISO 7000-0626
36		en: fragile, handle with care fr: fragile, manipuler avec soin de: zerbrechlich, vorsichtig behandeln	ISO 7000-0621
37		en: keep away from sunlight fr: conserver à l'abri du soleil de: vor Sonnenlicht geschützt aufbewahren	ISO 7000-0624

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Table 6 (*continued*)

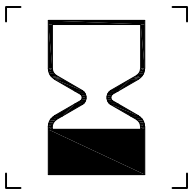
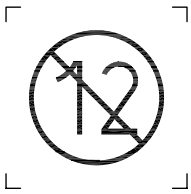
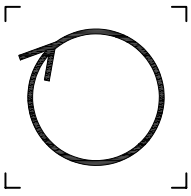
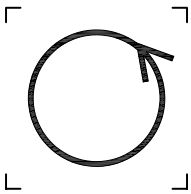
N°	Symbol	Title/description/application	ISO/IEC registration No.
38	 The symbol shall be accompanied by a date to indicate that the device should not be used after the end of the date shown. Date formats shall be in accordance with ISO 8601,e.g. 2006-12-01.	en: use by fr: à utiliser avant la date de: verwendbar bis NOTE Synonym for "use by" is "expiry date".	ISO 7000-2607
39		en: do not re-use fr: ne pas réutiliser de: nicht zur Wiederverwendung NOTE Synonyms for "do not re-use" are "single use" or "use only once".	ISO 7000-1051
40	 In the symbol a number shall be inserted indicating the recommended number of times used less one. NOTE The number 12 is given as example only.	en: number of use less one fr: nombre d'utilisations moins une de: Anzahl der Verwendungen minus eins	Application of ISO 7000-1051
41		en: right revolution (clockwise rotation) fr: rotation à droite (rotation dans le sens des aiguilles d'une montre) de: Rechtsdrehung (Rotation im Uhrzeigersinn)	ISO 7000-0258
42		en: left revolution (anti-clockwise rotation) fr: rotation à gauche (rotation dans le sens inverse des aiguilles d'une montre) de: Linksdrehung (Rotation im Gegenuhrzeigersinn)	ISO 7000-0937

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Table 6 (*continued*)

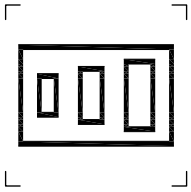
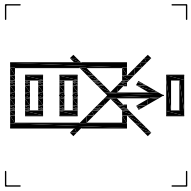
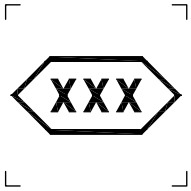
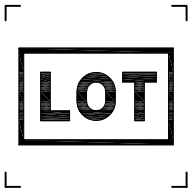
N°	Symbol	Title/description/application	ISO/IEC registration No.
43		en: assortment fr: assortiment de: Einheit	ISO 7000-2791
44		en: cannot be sold separately fr: ne peut être vendu séparément de: kann nicht einzeln verkauft werden	ISO 7000-2792
45	 In the symbol instead of "XXX" a letter code shall be inserted identifying the type of material.	en: material symbol fr: symbole de matière de: Materialsymbol	ISO 7000-2793
46		en: lot number fr: numéro de lot de: Chargenbezeichnung NOTE Synonyms for "lot number" are "batch code" or "batch number".	ISO 7000-2492
47		en: catalogue number fr: numéro de catalogue de: Bestellnummer NOTE Synonyms for "catalogue number" are "reference number" or "order number".	ISO 7000-2493
48		en: serial number fr: numéro de série de: Seriennummer	ISO 7000-2498

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Table 6 (*continued*)

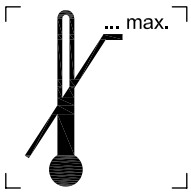
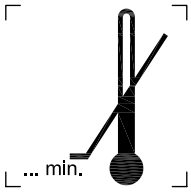
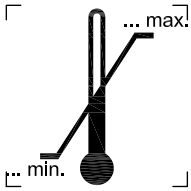
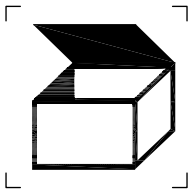
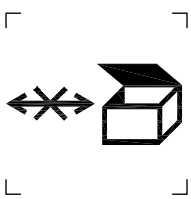
N°	Symbol	Title/description/application	ISO/IEC registration No.
49	 Near the symbol a number shall be inserted indicating the maximum temperature (e.g. 180 °C max.).	en: upper limit of temperature fr: limite supérieure de température de: obere Temperaturbegrenzung	Application of ISO 7000-0533
50	 Near the symbol a number shall be inserted indicating the minimum temperature (e.g. 4 °C min.).	en: lower limit of temperature fr: limite inférieure de température de: untere Temperaturbegrenzung	Application of ISO 7000-0534
51	 Near the symbol two numbers shall be inserted indicating the minimum and maximum temperature (e.g. 130 °C min.; 138 °C max.).	en: temperature limitation fr: limite de température de: Temperaturbegrenzung	Application of ISO 7000-0632

Table 7 — Symbols for packaging

N°	Symbol	Title/description/application	ISO/IEC registration No.
52		en: packaging unit fr: unité d'emballage de: Verpackungseinheit	ISO 7000-2794
53		en: opened packages are not replaced fr: les emballages ouverts ne sont pas remplacés de: offene Packungen werden nicht ersetzt	ISO 7000-2795

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Bibliography

[1] ISO 780, *Packaging — Pictorial marking for handling of goods*

[2] ISO 7000, *Graphical symbols for use on equipment — Index and synopsis*[1)]

[3] ISO 9687, *Dental equipment — Graphical symbols*

[4] ISO 11140-1, *Sterilization of health care products — Chemical indicators — Part 1: General requirements*

[5] ISO 15223-1, *Medical devices — Symbols to be used with medical device labels, labelling and information to be supplied — Part 1: General requirements*

[6] ISO 15882, *Sterilization of health care products — Chemical indicators — Guidance for selection, use and interpretation of results*

[7] ISO 81714-1, *Design of graphical symbols for use in the technical documentation of products — Part 1: Basic rules*

[8] IEC 60417, *Graphical symbols for use on equipment*[1)]

[9] IEC/TR 60878, *Graphical symbols for electrical equipment in medical practice*

[10] IEC 80416-1, *Basic principles for graphical symbols for use on equipment — Part 1: Creation of symbol originals*

[11] EN 980, S*ymbols for use in the labelling of medical devices*

1) The database, *Graphical symbols for use on equipment*, available at http://www.graphical-symbols.info/, contains all the symbols in IEC 60417 and ISO 7000.

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