

Dental extraction forceps —

Part 1: Screw and pin joint types

The European Standard EN ISO 9173-1:1995 has the status of a British Standard

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Health Care Standards Policy Committee (HCC/-) to Technical Committee HCC/52, upon which the following bodies were represented:

- British Dental Association
- British Dental Trade Association
- British Endodontic Society
- British Society for Restorative Dentistry
- British Society for the Study of Orthodontics
- British Society for the Study of Prosthetic Dentistry
- British Society of Periodontology
- Department of Health
- Ministry of Defence
- Scottish Health Services

This British Standard, having been prepared under the direction of the Health Care Standards Policy Committee, was published under the authority of the Standards Board and comes into effect on 31 January 1992

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National foreword

This Part of BS 7549 has been prepared under the direction of the Health Care Standards Policy Committee and is identical with ISO 9173-1:1991 “*Dental extraction forceps — Part 1: Screw and pin joint types*” prepared by Technical Committee 106, “Dentistry”, of the International Organization for Standardization (ISO) with the active participation of the UK.

In 1995 the European Committee for Standardization (CEN) accepted ISO 9173-1:1991 as European Standard EN ISO 9173-1:1995. As a consequence of implementing the European Standard this British Standard is renumbered as BS EN ISO 9173-1:1996 and any reference to BS 7549-1:1992 should be read as a reference to BS EN ISO 9173-1:1996.

This British Standard supersedes BS 4750:1971 “*Specification for dental extracting forceps (performance requirements)*” and BS 5211:1975 “*Specification for popular patterns of extracting forceps*” which are withdrawn. As performance requirements (previously in BS 4750) and dimensional requirements (previously in BS 5211) are now published together in this British Standard, it has been decided to renumber it as BS 7549-1.

This British Standard updates BS 5221 by specifying those patterns of English forceps that have been internationally accepted and are currently available.

Further Parts of BS 7549 are envisaged.

The introduction to ISO 9173-1 reads as follows.

“For many decades, “English” pattern forceps have been widely used by the world-wide dental community. The popularity of these forceps has been such that a number of manufacturers, from various countries, have produced their own versions. Quite naturally, each manufacturer attempted to introduce an element of individuality into the design; but as a consequence subtle dimensional changes occurred between forcep patterns produced by different manufacturers.

This part of ISO 9173 is based on commercial specifications and illustrates the popular patterns of forceps currently used in dental practice; it is by no means comprehensive and details of additional patterns may form the basis for future parts in this series.

The patterns described are not intended to specify a definitive design or formula but rather to reflect the range of dimensions currently used by manufacturers. For this reason some tolerances are rather generous and manufacturers are requested to work to closer tolerances on individual dimensions.”

Cross-references

International Standard	Corresponding British Standard
ISO 6508:1986	BS 891:1989 <i>Methods for hardness test (Rockwell method) and for verification of hardness testing machines (Rockwell method)</i> (Technically equivalent)
ISO 7153-1:1983	BS 5194 <i>Surgical instruments</i> Part 1:1985 <i>Specification for stainless steels</i> (Technically equivalent)

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, the EN ISO title page, pages 2 to 22, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

English version

Dental extraction forceps — Part 1: Screw and pin joint types

(ISO 9173-1:1991)

Daviers à usage dentaire — Partie 1: Types d'articulations à vis ou à tourillon
(ISO 9173-1:1991)

Zahnärztliche Extraktionszangen — Teil 1: Zangenmodelle mit Schraubschluß und Stiftgelenk
(ISO 9173-1:1991)

This European Standard was approved by CEN on 1995-10-04; CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

Foreword

The text of the International Standard from ISO/TC 106, Dentistry, of the International Organization for Standardization (ISO) has been taken over as a European Standard by the Technical Committee CEN/TC 55, Dentistry.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 1996, and conflicting national standards shall be withdrawn at the latest by April 1996.

According to the CEN Internal Regulations, the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

1 Scope

This part of ISO 9173 specifies the dimensions and performance requirements for dental extraction forceps with screw or pin joints, commonly known as English pattern forceps.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 9173. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 9173 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 6508:1986, *Metallic materials — Hardness test — Rockwell test (scales A – B – C – D – E – F – G – H – K)*.

ISO 7153-1:1983, *Instruments for surgery — Metallic materials — Part 1: Stainless steel*.

3 Construction materials

3.1 Component parts

With the exception of the pins and screws (see 3.2), the component parts shall be made of stainless steel of grade B or C of ISO 7153-1.

3.2 Pins and screws

The pins and screws shall be made of stainless steel chosen, at the discretion of the manufacturer, from the grades specified in ISO 7153-1.

4 Requirements for physical properties

4.1 Heat treatment and hardness

4.1.1 The component parts of the instruments, with the exception of the pins and screws, shall be heat-treated to attain a Rockwell hardness value of 42 HRC to 50 HRC when tested in accordance with ISO 6508.

4.1.2 Mating surfaces on the same instrument, such as those on opposite beaks, shall not vary in hardness by more than 3 units on the Rockwell hardness scale C.

4.2 Mechanical strength

When tested in accordance with 7.1, neither the forcep or any part thereof shall fracture, or show any sign of cracks or acquire a permanent set of dimension b_3 greater than 0,2 mm.

4.3 Resistance to corrosion by boiling water, autoclaving and dry heat

4.3.1 When subjected to the procedure described in 7.3, the instrument shall show no change in hardness or mechanical strength in any part or acquire a permanent set of dimension b_3 greater than 0,2 mm.

4.3.2 After being subjected to the procedure described in 7.2 and 7.3, the instrument shall show no evidence of corrosion (i.e. neither general or localized rust formation on the surface nor pitting).

NOTE Discoloration due to water marking does not constitute evidence of corrosion.

4.4 Requirements for joint

4.4.1 The forcep joint shall be so constructed so that the instrument opens smoothly, without jerking, when gripped in one hand and levered open and closed with the index finger.

4.4.2 When tested in accordance with 7.4, the opening and closing moment of force shall be between 0,20 N·m and 0,68 N·m.

4.4.3 When the extremity of each handle is gripped between the index finger and thumb of each hand, there shall be no perceptible lateral movement of the handles in any position between fully open and fully closed.

4.5 Finish

4.5.1 General

All surfaces shall be free from pores, cracks, grinding marks, residual scale and inclusions and shall also be free from any non-functional sharp edges when inspected using normal vision (corrected if necessary) without magnification.