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**Periodontal curettes, dental scalers and  
excavators —**

**Part 4:**  
Dental excavators — Discoid type

*Curettes parodontales, instruments dentaires pour détartrage et  
excavateurs dentaires —*

*Partie 4: Excavateurs dentaires — Type discoïde*



## 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.

International Standard ISO 13397-4 was prepared by Technical Committee ISO/TC 106, *Dentistry*, Subcommittee 4, *Dental instruments*.

ISO 13397 consists of the following parts, under the general title *Periodontal curettes, dental scalers and excavators*:

- *Part 1: General requirements*
- *Part 2: Periodontal curettes — Gr-type*
- *Part 3: Dental scalers — H-type*
- *Part 4: Dental excavators — Discoid-type*

It is anticipated that additional types of instruments will form the subject of future parts.

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# Periodontal curettes, dental scalers and excavators —

## Part 4:

### Dental excavators — Discoid type

#### 1 Scope

This part of ISO 13397 specifies the dimensions for dental excavators with discoid working ends.

#### 2 Normative references

The following standards contains provisions which, through reference in this text, constitute provisions of this part of ISO 13397. 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 13397 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 1942-3:1989, *Dental vocabulary — Part 3: Dental instruments*.

ISO 13397-1:1995, *Periodontal curettes, dental scalers and excavators — Part 1: General requirements*.

#### 3 Definitions

For the purposes of this part of ISO 13397, the definitions given in ISO 1942-3 apply.

#### 4 Design and dimensions

##### 4.1 General

General requirements for dental excavators are specified in ISO 13397-1.

The classification of forms of dental excavator is given in table 1.

Table 1 — Classification of excavator forms

Form	Shape	Classification
A	Straight	100
B	Angled	200
C	Contra-angled	300
D	Angled, complex	400

Dental excavators shall have the designs shown in figures 1 to 4 and the dimensions as given in table 2. The points of measurement associated with the dimensions are listed in table 3.

Annex A of ISO 13397-1:1995 provides details of one method of measurement applicable to most types of dental hand instrument.

#### 4.2 Overall length

The maximum overall length, irrespective of the design of the instrument, shall be 178 mm.

### 5 Test under torque

For dental excavators, subject the union between the working end and the handle to a torque of 200 N · cm for a duration of at least 5 s.

### 6 Designation and marking

The manufacturer should include in the catalogue and on the package of the product the number of this International Standard (ISO 13397-4) followed by an oblique stroke and the number indicating the type of excavator as shown in table 2.

EXAMPLE: an excavator of form C, type 301, should be designated as follows:

**ISO 13397-4/301**

Table 2 — Dimensions of discoid-type excavators

Dimensions in millimetres  
(angular dimensions in degrees)

Type	$b_1$ ± 0,1	$b_2$ ± 0,1	$b_3$ ± 0,1	$b_4$ ± 0,1	$h_1$ ± 0,3	$h_2$ ± 0,3	$\alpha$ ± 5	$\beta$ ± 5
<b>Form A: 100 = Straight</b>								
101	2,5	0,9	—	1,2	—	—	40	—
102	1,7	0,7	—	0,9	—	—	40	—
<b>Form B: 200 = Angled</b>								
201	1,1	0,5	—	0,7	6,4	—	35	72
202	1,0	0,5	—	0,7	6,4	—	35	72
<b>Form C: 300 = Contra-angled</b>								
301	2,5	0,8	—	1,2	2,0	3,7	35	30
302	2,5	0,7	—	1,2	2,0	3,7	35	40
303	2,0	0,7	—	1,1	2,1	3,4	35	30
304	1,7	0,7	—	0,9	1,9	3,5	35	30
305	1,4	0,6	—	0,8	1,7	3,5	35	30
306	1,1	0,6	—	0,7	1,6	3,6	35	30
307	1,0	0,5	—	0,7	2,5	1,8	35	30
308	0,8	0,5	—	0,6	2,7	3,6	35	35
<b>Form D: 400 = Angled, complex</b>								
401	1,4	0,7	2,5	0,8	2,9	3,0	35	83

Table 3 — Points of measurement for discoid type excavators

Dimension		Point of measurement
$b_1$	Blade width	Measured at the widest point, unless a specific cross-section is indicated by AA, BB, ..., ZZ at a set distance from the datum point.
$b_2$	Blade thickness	Measured at the thickest part of the blade.
$b_3$	Blade length	Distance measured from the extreme tip of the blade to the intersection of the shank and the first bend.
$b_4$	Neck thickness	Measured immediately behind the blade at the smallest point, at right angles to the centreline of the instrument.
$h_1$	Blade height	Distance measured from the datum point, at right angles to the centreline of the instrument, to the farthest extremity of the blade.
$h_2$	Shank height	Distance measured from the datum point, at right angles to the centreline of the instrument, to the farthest external surface of the first bend of the shank.
$\alpha$	Blade angle	Angle of glaze surface to the centreline of the blade, shank or instrument, whichever is appropriate.
$\beta$	Offset angle	With the instrument viewed at 90° to the standard position (i.e. a plan view), the angle between the centreline of the shank and a line, parallel to the centreline of the instrument, forming a tangent with the first bend of the instrument.

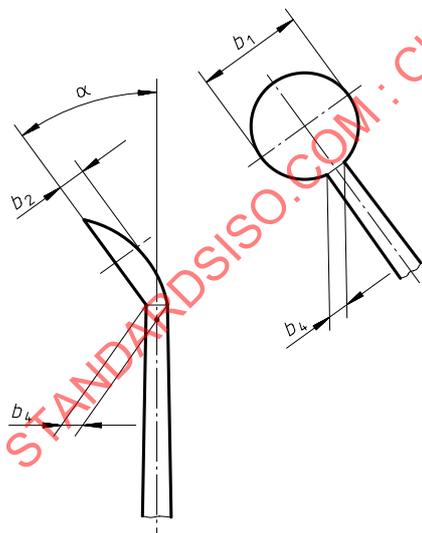


Figure 1 — Form A: Straight

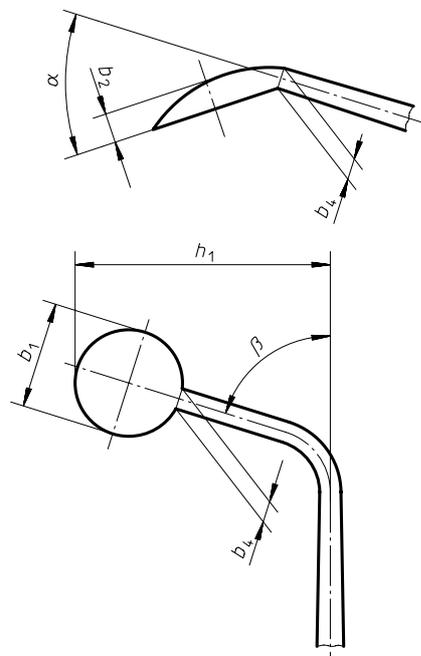


Figure 2 — Form B: Angled