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**Dentistry — Rotary polishers**

*Art dentaire — Polissoirs rotatifs*

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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 21671 was prepared by Technical Committee ISO/TC 106, *Dentistry*, Subcommittee SC 4, *Dental instruments*.

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## Introduction

This International Standard is one of a series of standards relating to rotary instruments used in dentistry.

The various dimensional and other requirements specified for polishers are those considered important to ensure the interchangeability and safe usage of these instruments in the dental laboratory and at the dentist's working place.

The nominal diameters of the working part listed in Clauses 5 and 6 comply preferably with the diameters specified in ISO 2157.

Attention is drawn to ISO 6360 which specifies a 15-digit number coding system for the identification of rotary instruments of all types used in dentistry.

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# Dentistry — Rotary polishers

## 1 Scope

This International Standard specifies the dimensions and other requirements for the most commonly used polishers which are used at the working place of the dentist and/or in the dental laboratory.

This International Standard is applicable to unmounted and mounted polishers.

## 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 1797-1:1992, *Dental rotary instruments — Shanks — Part 1: Shanks made of metals*

ISO 1797-2, *Dental rotary instruments — Shanks — Part 2: Shanks made of plastics*

ISO 1942, *Dentistry — Vocabulary*

ISO 2859-1, *Sampling procedures for inspection by attributes — Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*

ISO 6360-1, *Dentistry — Number coding system for rotary instruments — Part 1: General characteristics*

ISO 6360-2, *Dentistry — Number coding system for rotary instruments — Part 2: Shapes*

ISO 6360-6, *Dentistry — Number coding system for rotary instruments — Part 6: Specific characteristics of abrasive instruments*

ISO 8325, *Dentistry — Test methods for rotary instruments*

ISO 13295, *Dentistry — Mandrels for rotary instruments*

## 3 Terms, definitions and symbols

### 3.1 Terms and definitions

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

#### 3.1.1

##### **polisher**

rotary instrument used in dentistry for polishing dental materials or teeth

#### 3.1.2

##### **mounted polisher**

nondetachable polisher that is fixed on a shank

### 3.1.3

#### unmounted polisher

polisher that is delivered without a fixture or shank, but which is to be mounted on a fixture or mandrel with a fixture or a screw

## 3.2 Symbols

For the purpose of this document the following symbols apply:

- $d_1$  diameter of working part, head diameter;
- $d_n$  diameter as appropriate (see Figures 1 to 21);
- $l_1$  length of working part;
- $l_n$  length as appropriate (see Figures 1 to 21);
- $\alpha_1$  angle of working part;
- $\alpha_2$  angle of screw-in orifice;
- $\alpha_n$  angle as appropriate.

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## 4 Requirements

### 4.1 Materials

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#### 4.1.1 Working part

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The working part shall be made of silicon rubber, natural rubber or synthetic rubber with the possible addition of abrasive materials. The selection of the type of material and its treatment shall be at the discretion of the manufacturer.

#### 4.1.2 Shank or mandrel

The material of the shank for mounted polishers shall comply with ISO 1797-1 or ISO 1797-2. The material of the mandrel used for unmounted polishers shall comply with ISO 13295. The material of mandrels not specified shall be at the discretion of the manufacturer.

### 4.2 Shapes

The shapes of the working part shall be as specified in Figures 1 to 21.

Variations of the shapes within the limited dimensions and the description used in the subclause titles are permitted. Sharp or slightly rounded edges are at the discretion of the manufacturer.

Testing shall be carried out in accordance with 7.1.

### 4.3 Dimensions

Dimensions are given in millimetres, angles in degrees.



#### 4.3.1 Working part

The dimensions of the working part shall be as specified in the appropriate Tables in Clauses 5 and 6.

Testing shall be carried out in accordance with 7.2.

#### 4.3.2 Shanks and mandrels

##### 4.3.2.1 Mounted polishers

The shank of mounted polishers shall be either Type 1, Type 2, Type 3 or Type 4 of ISO 1797-1:1992. Screw threaded shanks shall be 1,80 mm diameter with 0,35 mm thread pitch or with 0,40 mm thread pitch.

##### 4.3.2.2 Unmounted polishers

Mandrels for unmounted polishers shall be in accordance with ISO 13295.

#### 4.4 Colour codes for marking of grit sizes for diamond-containing abrasives

The application of the colour code is left to the discretion of the manufacturer.

If colour coding is applied, it shall be performed as described in this International Standard.

Take account of the fitting length of the shank according to ISO 1797-1 and to ISO 1797-2.

Position of colour coding: on the shank, next to the working part.

**Table 1 — Colour code for grit sizes of diamond-containing abrasives**

Grit size of abrasives in the working part	Colour of ring marking
coarse	green
medium	blue
fine	red
extra fine	yellow
ultra fine	white

#### 4.5 Run-out

The run-out shall be as given in the respective Tables in Clauses 5 and 6.

Testing shall be carried out in accordance with 7.3.

## 5 Unmounted polishers

### 5.1 Disc

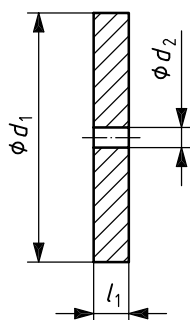
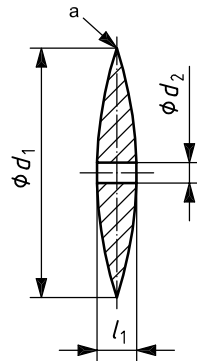


Figure 1 — Disc

Table 2 — Disc — Dimensions and run-out

Designation of nominal diameter, nominal size	$d_1$ $\pm 0,5$	$d_2$ $\pm 0,2$	$l_1$ $\pm 0,3$	Run-out
120	12	18	2,0	0,2
170	17		2,5	
200	20		1,0	
220	22		1,0	
220	22		3,1	
250	25		1,0	
260	26		1,2	

5.2 Lens



a Edge: sharp or slightly rounded at the discretion of the manufacturer.

Figure 2 — Lens

Table 3 — Lens — Dimensions and run-out

Designation of nominal diameter, nominal size	$d_1$ $\pm 0,5$	$d_2$ $\pm 0,2$	$l_1$ $\pm 0,5$	Run-out
130	13	1,8	2,5	0,2
150	15		2,5	
180	18		3,0	
220	22		3,5	

5.3 Cylindrical for screw-in

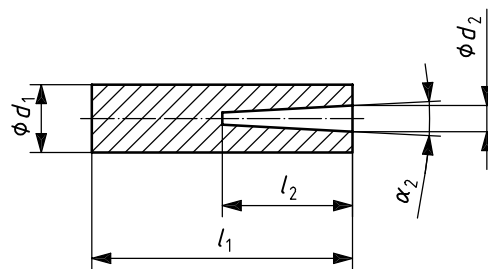


Figure 3 — Cylindrical for screw-in

Table 4 — Cylindrical for screw-in — Dimensions and run-out

Designation of nominal diameter, nominal size	$d_1$ $\pm 0,5$	$d_2$ $\pm 0,4$	$l_1$ $\pm 1$	$l_2$ $\pm 0,5$	$\alpha_2$ $^\circ$	Run-out
060	6	2,3	23	11	1 to 3	0,2
070	7		20			