
**Dentistry — Rotary bur instruments —
Part 2:
Finishing burs**

Art dentaire — Instruments rotatifs de fraisage —

Partie 2: Fraises à finir

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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 3823-2 was prepared by Technical Committee ISO/TC 106, *Dentistry*, Subcommittee SC 4, *Dental instruments*.

This second edition cancels and replaces the first edition (ISO 3823-2:1986), which has been technically revised to contain the updated specifications for dental steel and carbide finishing burs. The specifications for steel finishing burs remain unchanged, while those for carbide finishing burs have been updated and changed in respect to bur shapes and diameters.

ISO 3823-2:2003

ISO 3823 consists of the following parts, under the general title *Dentistry* — *Rotary bur instruments*:

- *Part 1: Burs*
- *Part 2: Finishing burs*

Introduction

This part of ISO 3823 is one of a series of International Standards relating to dental rotary instruments.

This second edition of ISO 3823-2 contains the updated specifications for tungsten carbide finishing burs. The specifications for steel finishing burs remain unchanged.

The various dimensional and other requirements specified for steel and carbide finishing burs are those considered important to ensure the interchangeability and safe usage of these instruments in the practice of dentistry.

The nominal diameters of the working parts listed in Tables 1 to 68 comply with the diameters specified in ISO 2157.

Attention is drawn to the ISO 6360 series, which specifies a 15-digit numbering system for the identification of dental rotary instruments of all types.

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Dentistry — Rotary bur instruments —

Part 2: Finishing burs

1 Scope

This part of ISO 3823 specifies dimensional and other relevant requirements for the 17 most commonly used shapes of steel and carbide finishing burs, including a quality control and specifications for labelling of these instruments.

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 3696, *Water for analytical laboratory use — Specification and test methods*

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

ISO 6360-3, *Dentistry — Number coding system for rotary instruments — Part 3: Specific characteristics of burs and cutters*

ISO 8325:1985, *Dental rotary instruments — Test methods*

ISO 13402:1995, *Surgical and dental hand instruments — Determination of resistance against autoclaving, corrosion and thermal exposure*

3 Classification

Steel and carbide finishing burs shall be classified, according to the material of the working part, into the following two types:

- Type 1: Steel finishing burs
- Type 2: Carbide finishing burs

4 Symbols

For the purposes of this part of ISO 3823, the following symbols apply:

d_1 diameter of working part, head diameter;

d_2 neck diameter;

d_3 diameter of tip;

l_1 length of working part, head length;

l_2 overall length;

α angle of the working part.

5 Requirements

5.1 Material

5.1.1 Working part

The working parts of steel finishing burs shall be made of steel and those of carbide finishing burs of tungsten carbide. The selection of the type of material and its treatment shall be left to the discretion of the manufacturer.

5.1.2 Shank

The material of the shank shall comply with ISO 1797-1.

5.2 Shape

The shape of the working part shall be as specified in Figures 1 to 34. Variations of the shape within the limited dimensions and the terms specified in the titles of the respective subclauses are permitted.

Testing shall be carried out in accordance with 6.1. [ISO 3823-2:2003](https://standards.iteh.ai/catalog/standards/sist/cca61a14-a5a0-473d-8cde-f35a511e7c74/iso-3823-2-2003)
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5.3 Dimensions and number of blades

5.3.1 Units used for dimensions and angles

Dimensions are given in millimetres, angles are given in degrees.

5.3.2 Working part

The dimensions of the working part shall be as specified in Tables 1 to 34.

The number of blades shall be as specified in Tables 1 to 34. The numbers refer to instruments with medium (standard) fineness.

The tothing shown in Figures 1 to 34 are examples only. Tothing shall be at the discretion of the manufacturer. The identification of the tothing shall be made in accordance with ISO 6360-3.

Testing shall be carried out in accordance with 6.2.

5.3.3 Shank

The shank shall be Type 1, 2 or 3 in accordance with ISO 1797-1.

5.3.4 Overall length

The overall length of the instrument, l_2 , depends on the fitting length of the shank used.

In Tables 1 to 34 the term “Standard” refers to instruments with standard fitting lengths of the shanks. For instruments with longer or shorter shank length, the overall length, l_2 , varies accordingly. See ISO 1797-1:1992, Table 1, for fitting length of shanks.

Testing shall be carried out in accordance with 6.2.

5.3.5 Figures and Tables for steel finishing burs

5.3.5.1 Spherical (round)

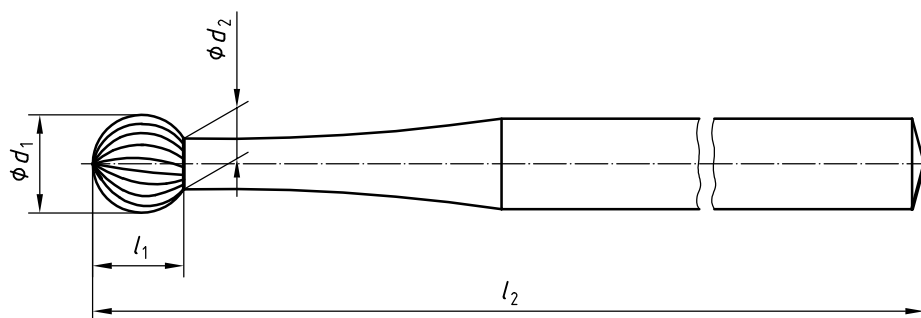


Figure 1 — Spherical, steel finishing burs

Table 1 — Spherical, steel finishing burs: Dimensions and number of blades

Designation of nominal diameter (Nominal size)	d_1		d_2 max	l_1 min	Number of blades min	l_2 $\pm 0,5$			
	nom.	tol.				Shank Type 1 Standard	Shank Type 2 Standard	Shank Type 3 Standard	Shank Type 3 Short
008	0,8	$\pm 0,08$	0,64	0,58	10	22,0	44,5	19,0	16,5
010	1,0		0,78	0,73	12				
012	1,2		0,88	0,90	14				
014	1,4	$\pm 0,1$	0,98	1,08	16				
016	1,6		1,04	1,26	16				
018	1,8		1,12	1,46	16				
021	2,1		1,20	1,71	20				
023	2,3		1,29	1,89	20				
025	2,5		1,40	2,05	20				
027	2,7		1,48	2,23	22				
029	2,9		1,60	2,39	22				
031	3,1		1,68	2,53	24				
033	3,3		1,78	2,72	26				
035	3,5	1,82	2,92	28					
037	3,7	1,92	3,09	30					
040	4,0	2,06	3,40	32					
042	4,2	2,16	3,51	32					
045	4,5	2,16	3,80	32					
047	4,7	2,24	3,97	36					
050	5,0	2,32	4,25	36					

5.3.5.2 Bud

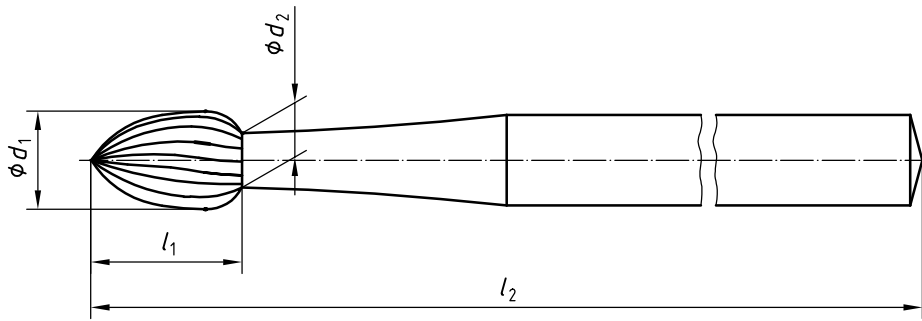
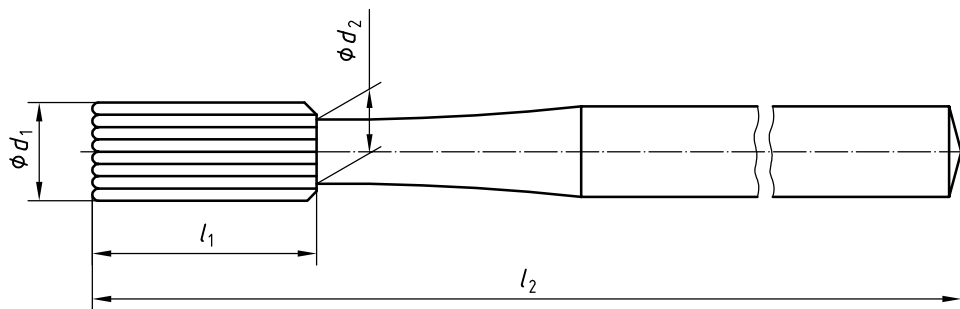


Figure 2 — Bud, steel finishing burs

Table 2 — Bud, steel finishing burs: Dimensions and number of blades

Designation of nominal diameter (Nominal size)	d_1		d_2 max.	l_1 min.	Number of blades min.	l_2 $\pm 0,5$			
	nom.	tol.				Shank Type 1 Standard	Shank Type 2 Standard	Shank Type 3 Standard	Shank Type 3 Short
010	1,0	$\pm 0,08$	0,78	1,10	12	22,0	44,5	19,0	16,5
012	1,2		0,88	1,40	14				
014	1,4		0,98	1,70	14				
016	1,6		1,04	2,00	16				
018	1,8		1,12	2,35	16				
021	2,1		1,20	2,75	20				
023	2,3		1,29	3,05	20				

5.3.5.3 Cylindrical



Taper angle of the head < 2°

Figure 3 — Cylindrical, steel finishing burs

Table 3 — Cylindrical, steel finishing burs: Dimensions and number of blades

Designation of nominal diameter (Nominal size)	d_1		d_2 max.	l_1 min.	Number of blades min.	l_2 ± 0,5			
	nom.	tol.				Shank Type 1 Standard	Shank Type 2 Standard	Shank Type 3 Standard	Shank Type 3 Short
008	0,8	± 0,08	0,88	3,3	10	22,0	44,5	19,0	16,5
010	1,0		1,08	3,8	12				
012	1,2		1,28	3,8	14				
014	1,4		1,35	4,3	14				
016	1,6		1,50	4,3	16				
018	1,8		1,60	4,8	16				
021	2,1		1,70	4,8	20				
023	2,3		1,80	5,3	20				