

INTERNATIONAL STANDARD

ISO
7711-2

First edition
1992-12-15

Dental rotary instruments — Diamond instruments —

Part 2:

Discs
STANDARD PREVIEW
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Instruments rotatifs dentaires — Instruments diamantés —

Partie 2: Disques

<https://standards.iteh.ai/catalog/standards/sist/102b5a3e-54a1-4d95-8a99-36e17c81fde4/iso-7711-2-1992>



Reference number
ISO 7711-2:1992(E)

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 7711-2 was prepared by Technical Committee ISO/TC 106, *Dentistry*, Sub-Committee SC 4, *Dental instruments*.

ISO 7711 consists of the following parts under the general title *Dental rotary instruments — Diamond instruments* — <https://standards.iteh.ai/catalog/standards/sls/026970054a1-4d95-8a99-36e17c81fd4/iso-7711-2-1992>

- *Part 1: Shapes, main dimensions and requirements*
- *Part 2: Discs*
- *Part 3: Grit sizes, designation and colour code*

ISO 7711:1984 is considered as part 1 of this series.

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International Organization for Standardization
Case Postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

Dental rotary instruments — Diamond instruments —

Part 2: Discs

1 Scope

ISO 7711, published in 1984, contains 29 shapes of diamond instruments.

This part of ISO 7711 specifies flat diamond discs used commonly in daily dental practice in the dental surgery. Five shapes have been selected with their specific dimensions. Additional types of discs will follow as deliberations continue.

Attention is drawn to ISO 6360-1 and ISO 6360-2 which specify a 15 digit number for the identification of dental rotary instruments of all types.

NOTE 1 The various dimensional and other requirements specified for diamond instruments are those considered important to ensure the interchangeability of these instruments.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 7711. 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 7711 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 1797-1:1992, *Dental rotary instruments — Shanks — Part 1: Shanks made of metals.*

ISO 6360-1:1985, *Dental rotary instruments — Number coding system — Part 1: General characteristics.*

ISO 6360-2:1986, *Dental rotary instruments — Number coding system — Part 2: Shape and specific characteristics.*

ISO 6360-2:1986/Amd.1:1991, Amendment 1.

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

3 Dimensional and material requirements

The dimensions and tolerances of the discs shall comply with the values, given in millimetres, specified in the figures and tables.

3.1 Flat disc, very thin, peripheral and rim cutting

3.1.2 Bore diameter for unmounted discs: $1,6^{+0,05}_0$ or $1,8^{+0,05}_0$.

3.1.3 Material for the disc plate: Stainless steel, type and treatment at the discretion of the manufacturer.

3.1.1 These discs shall comply with figure 1 and table 1.

3.1.4 Yield strength: 1 000 N/mm² min.

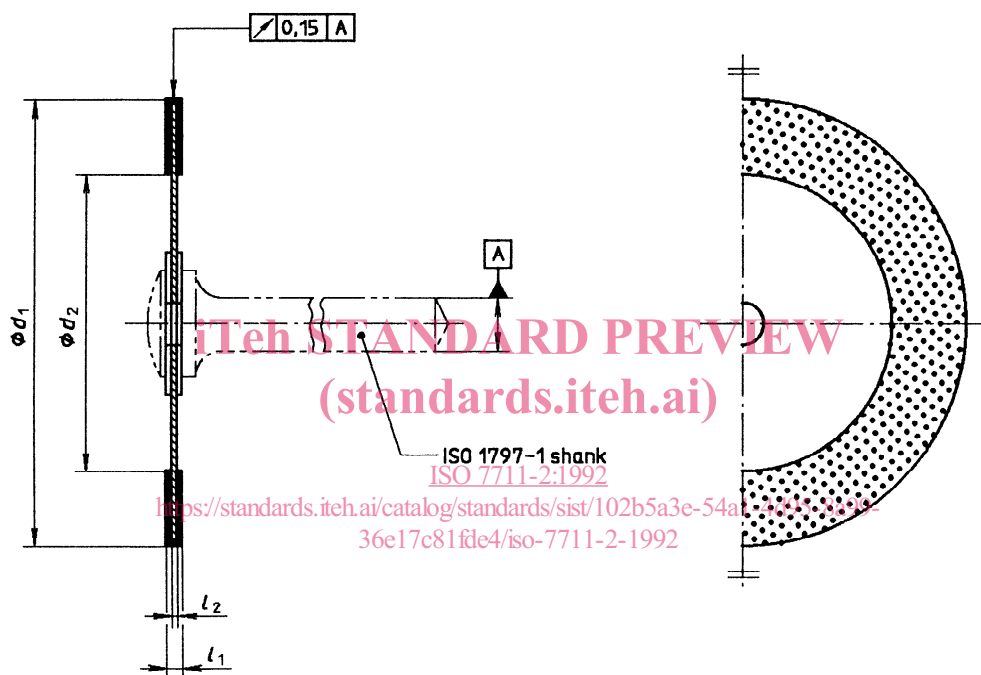


Figure 1

Table 1 — Dimensions and tolerances

Nominal size	d_1 $^{+0,4}_0$	d_2 tol.	l_1 $\pm 0,03$	l_2 $\pm 0,005$
140	14	10	$\pm 0,3$	0,15
160	16	10		
180	18	12	$\pm 0,5$	0,05
200	20	14		
220	22	16		

3.2 Flat disc, thin, peripheral and rim cutting

3.2.1 These discs shall comply with figure 2 and table 2.

3.2.2 Bore diameter for unmounted discs: 1,6 $\begin{smallmatrix} +0,05 \\ 0 \end{smallmatrix}$ or 1,8 $\begin{smallmatrix} +0,05 \\ 0 \end{smallmatrix}$.

3.2.3 Material for the disc plate: Stainless steel, type and treatment at the discretion of the manufacturer.

3.2.4 Yield strength: 1 000 N/mm² min.

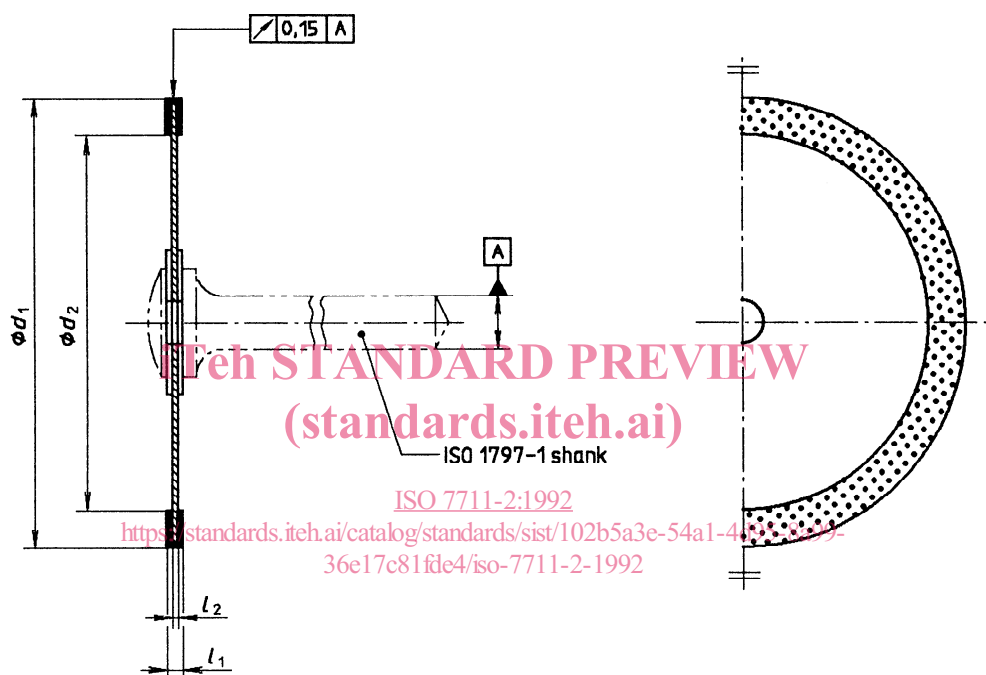


Figure 2

Table 2 — Dimensions and tolerances

Nominal size	d_1 $\begin{smallmatrix} +0,4 \\ 0 \end{smallmatrix}$	d_2 $\pm 0,5$	l_1 $\pm 0,05$	l_2 $\pm 0,01$
160	16	13		
180	18	15		
200	20	17	0,3	0,1
220	22	19		
250	25	21		

3.3 Flat disc, thick, peripheral and rim cutting

3.3.1 These discs shall comply with figure 3 and table 3.

3.3.2 Bore diameter for unmounted discs: $1,6^{+0,05}_0$ or $1,8^{+0,05}_0$.

3.3.3 Material for the disc plate: Stainless steel, type and treatment at the discretion of the manufacturer.

3.3.4 Yield strength: 800 N/mm^2 min.

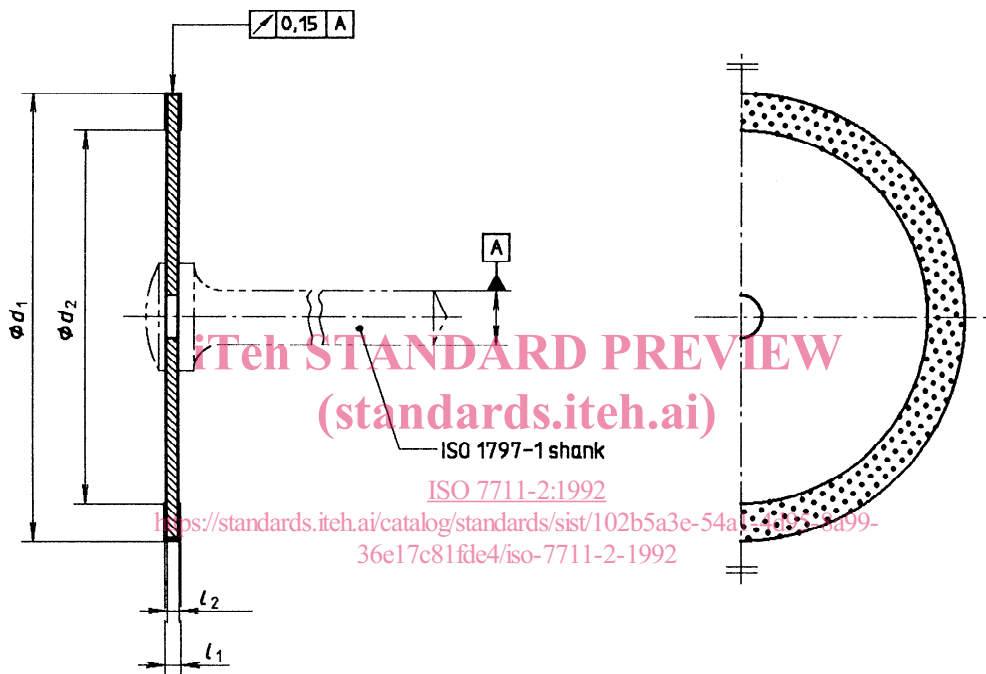


Figure 3

Table 3 — Dimensions and tolerances

Nominal size	d_1 $^{+0,4}_0$	d_2 $\pm 0,5$	l_1 $\pm 0,05$	l_2 $\pm 0,02$
160	16	13		
180	18	15		
200	20	17	0,55	0,3
220	22	19		
250	25	21		

3.4 Flat disc, thin, peripheral and proximal cutting

3.4.1 These discs shall comply with figure 4 and table 4.

3.4.2 Bore diameter for unmounted discs: $1,6 \begin{matrix} +0,05 \\ 0 \end{matrix}$
or $1,8 \begin{matrix} +0,05 \\ 0 \end{matrix}$.

3.4.3 Material for the disc plate: Stainless steel, type and treatment at the discretion of the manufacturer.

3.4.4 Yield strength: 1 000 N/mm² min.

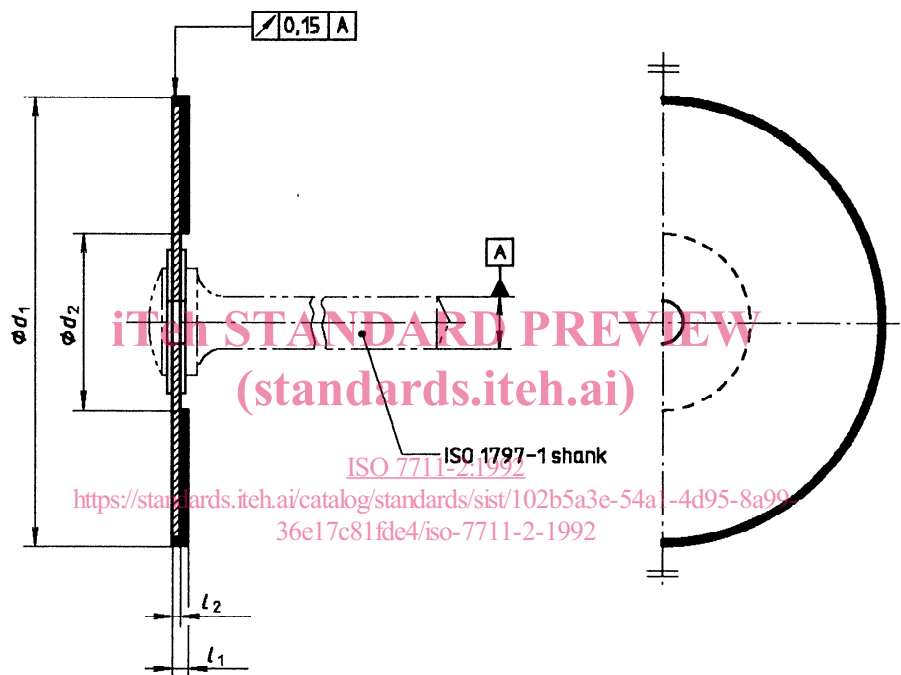


Figure 4

Table 4 — Dimensions and tolerances

Nominal size	d_1 $\begin{matrix} +0,4 \\ 0 \end{matrix}$	d_2 $\pm 0,5$	l_1 $\pm 0,02$	l_2 $\pm 0,01$
160	16			
180	18			
200	20	7	0,2	0,1
220	22			
250	25			

3.5 Flat disc, standard, peripheral and proximal cutting

3.5.1 These discs shall comply with figure 5 and table 5.

3.5.2 Bore diameter for unmounted discs: $1,6^{+0,05}_0$ or $1,8^{+0,05}_0$.

3.5.3 Material for the disc plate: Stainless steel, type and treatment at the discretion of the manufacturer.

3.5.4 Yield strength: 800 N/mm² min.

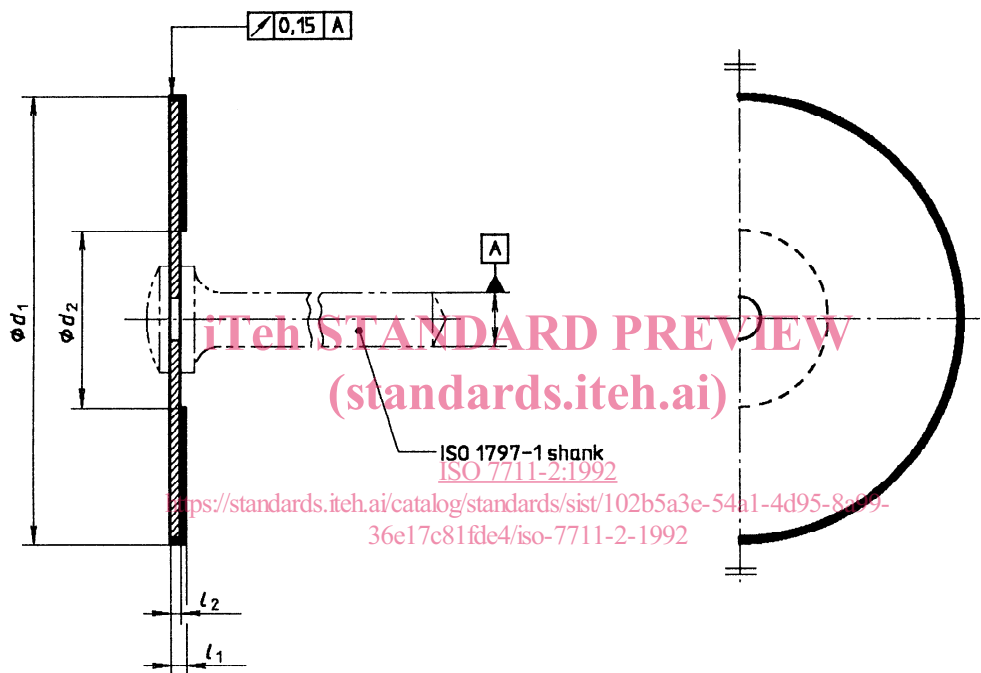


Figure 5

Table 5 — Dimensions and tolerances

Nominal size	d_1 $^{+0,4}_0$	d_2 $\pm 0,5$	l_1 $\pm 0,03$	l_2 $\pm 0,02$
180	18			
200	20			
220	22	7	0,45	0,3
250	25			

4 Run-out

The total run-out of the discs indicated in figures 1 to 5, i.e. 0,15 mm, shall be determined as specified in ISO 8325.

The measuring point is the middle of the disc at the periphery.

5 Mounting of discs

The diamond discs are mounted on mandrels which are used by insertion into the dental handpieces. In order to limit the run-out and the bending of the mandrel on which the disc is mounted for insertion into the dental handpiece, the length l_3 (see figure 6) shall be as specified in table 6.

NOTE 2 For the recommended rotational speed of the disc, refer to the manufacturer's instructions for use.

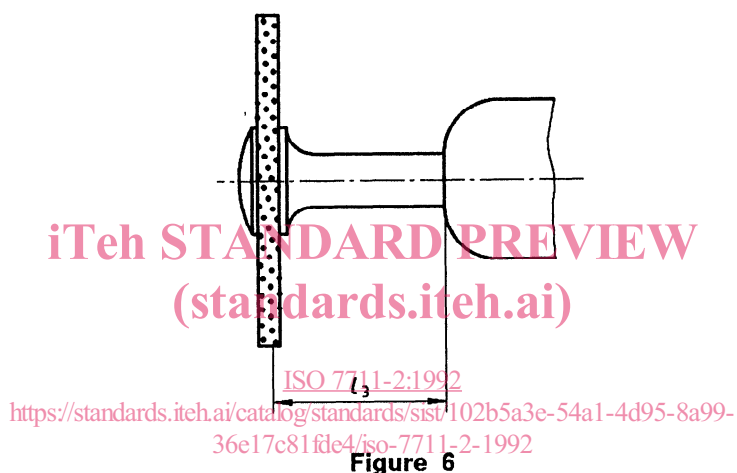


Table 6 — Dimensions and tolerances

Shank ISO 1797-1	l_3 ± 1
Type 1	10
Type 2	15