

International Standard



3630

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Dental root canal instruments

Instruments pour canaux radiculaires utilisés en art dentaire

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Descriptors : dentistry, dental instruments, reamers, files (tools), dimensions, colour codes, specifications.



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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 developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been authorized 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 3630 was developed by Technical Committee ISO/TC 106, *Dentistry*, and was circulated to the member bodies in August 1982.

It has been approved by the member bodies of the following countries:

Belgium	New Zealand	Switzerland
China	Norway	United Kingdom
Czechoslovakia	Romania	USA
Germany, F.R.	South Africa, Rep. of	USSR
Japan	Sweden	

The member bodies of the following countries expressed disapproval of the document on technical grounds:

Australia
France
India

Dental root canal instruments

0 Introduction

This International Standard covers significant features of hand- and power-operated dental root canal instruments which are used by the dentist for the mechanical preparation of root canals for treatment.

Attention is drawn to the International Standard on a number coding system, ISO 6360, which specifies a 15 digit number for the identification of dental rotary instruments of all types.

1 Scope and field of application

This International Standard specifies requirements, test methods, coding and identification for hand- and power-operated dental root canal instruments. It covers root canal instruments of the following types (see ISO 1942):

- a) files types H and K;
- b) reamers types K and B2;
- c) barbed broaches; ✕
- d) rasps; ✕
- e) paste carriers; ✕
- f) explorers and cotton broaches (probes and applicators).

NOTE — Additional types of instruments will form the subject of future International Standards.

2 References

ISO 1797, *Dental rotary instruments — Fitting dimensions*.¹⁾

ISO 1942, *Dental vocabulary*.

ISO 6360, *Dental rotary instruments — Number coding system*.²⁾

3 Material

The instruments shall be made of stainless steel or carbon steel. The type of steel and the treatment shall be at the discretion of the manufacturer.

4 Dimensional requirements

The dimensions are given in millimetres. The dimensional requirements of the instruments shall be as given in the respective tables and figures. Compliance shall be tested in accordance with 7.1.

NOTE — The dimensional requirements for files, types H and K and reamers, type K are very similar. Recent developments however might lead to more divergencies. Therefore in 4.2.1 to 4.2.3 these three types of instrument are laid down separately.

4.1 Nominal sizes, designation and nominal diameters

Table 1 gives the series of nominal diameters for the working part and the corresponding designations to be used for all dental root canal instruments regardless of the type of instrument.

The designation of the nominal sizes are given by 3 digits corresponding to the value of the nominal diameter, in hundredths of a millimetre.

Table 1 — Nominal diameters and nominal size designation

Nominal diameter	Nominal size designation
0,10	010
0,12	012
0,15	015
0,17	017
0,20	020
0,25	025
0,30	030
0,35	035
0,40	040
0,45	045
0,50	050
0,55	055
0,60	060
0,70	070
0,75	075
0,80	080
0,90	090
1,00	100
1,05	105
1,10	110
1,20	120
1,30	130
1,40	140

1) At present at the stage of draft. (Revision of ISO 1797-1976.)

2) At present at the stage of draft.

4.2 Files and reamers

4.2.1 Files, type H

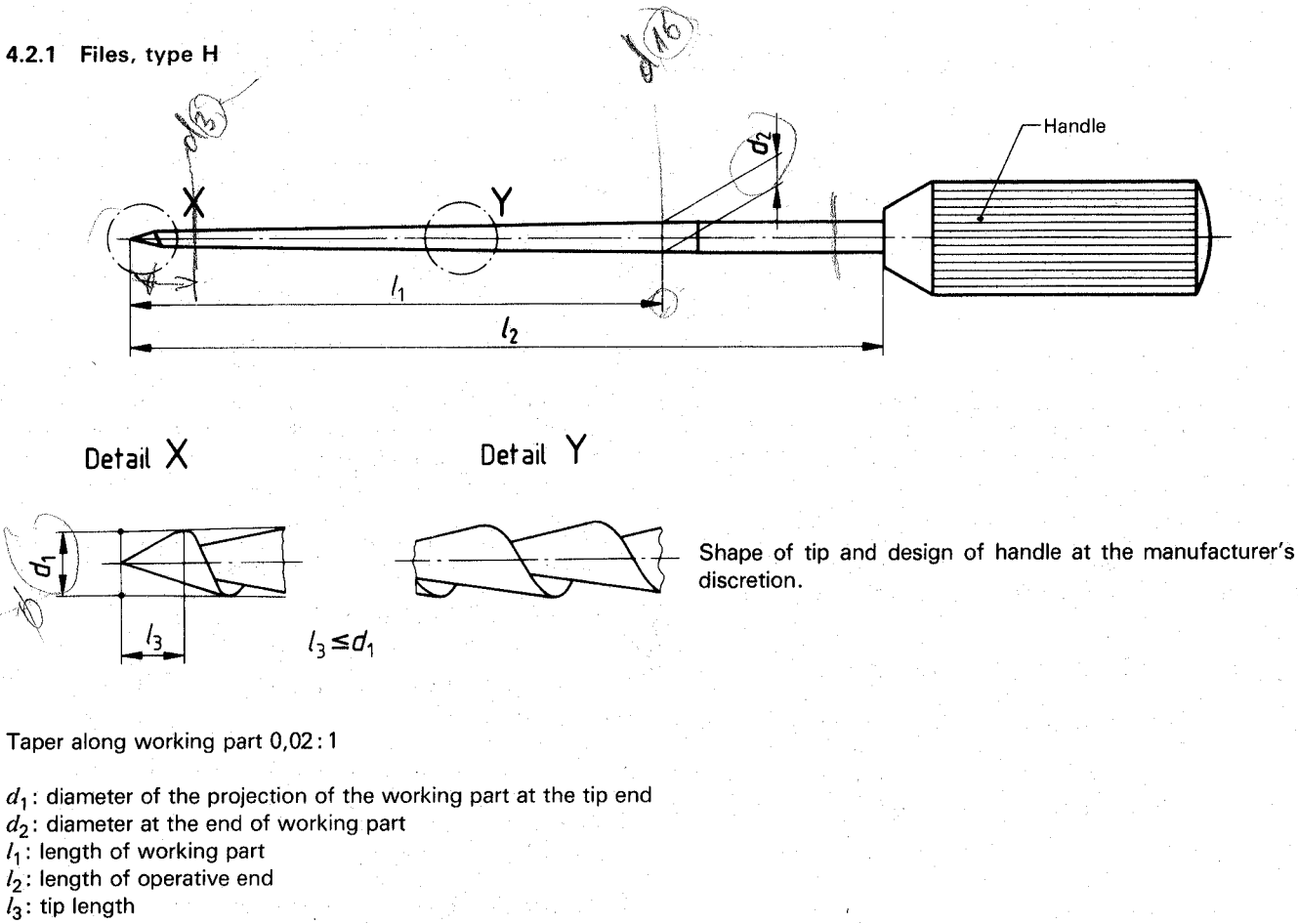


Figure 1 — Files, type H

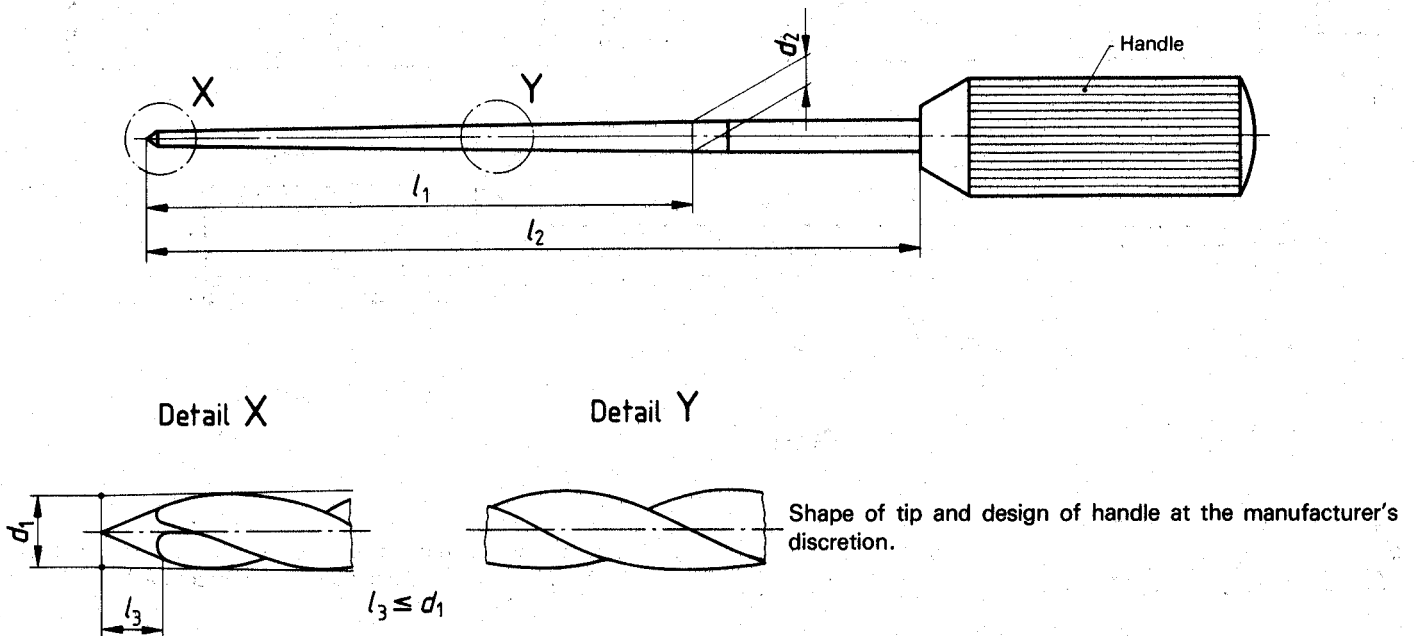
Table 2 — Dimensions and designation

Nominal sizes	d_1 $\pm 0,02$	d_2 $\pm 0,02$	l_1 min.	Colour designation
015	0,15	0,47	16	white
020	0,20	0,52		yellow
025	0,25	0,57		red
030	0,30	0,62		blue
035	0,35	0,67		green
040	0,40	0,72		black
045	0,45	0,77		white
050	0,50	0,82		yellow
055	0,55	0,87		red
060	0,60	0,92		blue
070	0,70	1,02		green
080	0,80	1,12		black
090	0,90	1,22		white
100	1,00	1,32		yellow
110	1,10	1,42		red
120	1,20	1,52		blue
130	1,30	1,62		green
140	1,40	1,72		black

Table 3 — Length l_2

l_2 $\pm 0,5$
21
25
28
31

4.2.2 Files, type K



Taper along working part 0,02:1

d_1 : diameter of the projection of the working part at the tip end

d_2 : diameter at the end of working part

l_1 : length of working part

l_2 : length of operative end

l_3 : tip length

Figure 2 — Files, type K

Table 4 — Dimensions and designation

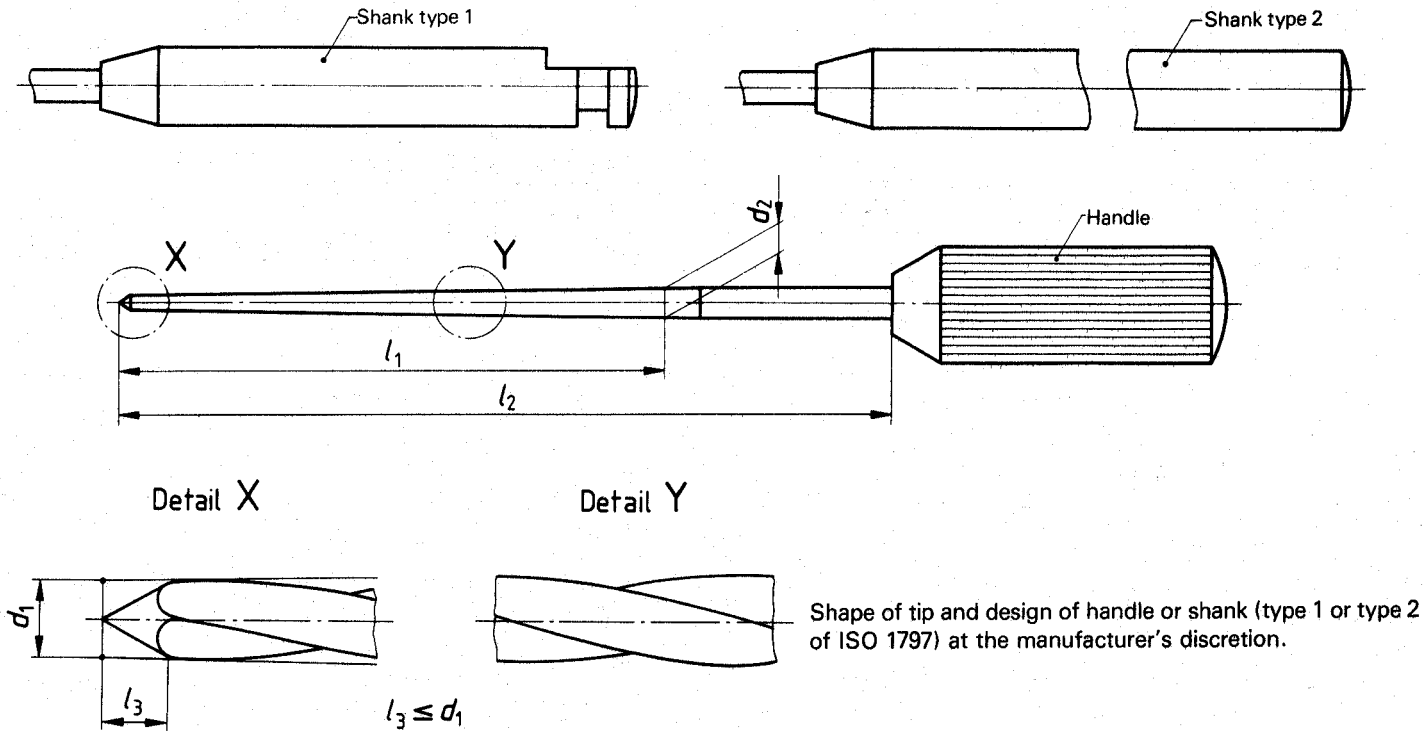
Nominal sizes	d_1 ± 0,02	d_2 ± 0,02	l_1 min.	Colour designation
010*	0,10	0,42	16	purple
015	0,15	0,47		white
020	0,20	0,52		yellow
025	0,25	0,57		red
030	0,30	0,62		blue
035	0,35	0,67		green
040	0,40	0,72		black
045	0,45	0,77		white
050	0,50	0,82		yellow
055	0,55	0,87		red
060	0,60	0,92		blue
070	0,70	1,02		green
080	0,80	1,12		black
090	0,90	1,22		white
100	1,00	1,32		yellow
110	1,10	1,42		red
120	1,20	1,52		blue
130	1,30	1,62		green
140	1,40	1,72		black

Table 5 — Length l_2

l_2 ± 0,5
21
25
28
31

* The size 010 is a super fine size and has therefore an individual colour which is purple.

4.2.3 Reamers, type K



Taper along working part 0,02 : 1

- d_1 : diameter of the projection of the working part at the tip end
- d_2 : diameter at the end of working part
- l_1 : length of working part
- l_2 : length of operative end
- l_3 : tip length

Figure 3 — Reamers, type K

Table 6 — Dimensions and designation

Nominal sizes	d_1 $\pm 0,02$	d_2 $\pm 0,02$	l_1 min.	Colour designation
010*	0,10	0,42	16	purple
015	0,15	0,47		white
020	0,20	0,52		yellow
025	0,25	0,57		red
030	0,30	0,62		blue
035	0,35	0,67		green
040	0,40	0,72		black
045	0,45	0,77		white
050	0,50	0,82		yellow
055	0,55	0,87		red
060	0,60	0,92		blue
070	0,70	1,02		green
080	0,80	1,12		black
090	0,90	1,22		white
100	1,00	1,32		yellow
110	1,10	1,42		red
120	1,20	1,52		blue
130	1,30	1,62		green
140	1,40	1,72		black

* The size 010 is a super fine size and has therefore an individual colour which is purple.

Table 7 — Length l_2

l_2 $\pm 0,5$
21
25
28
31