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**Digital codification of dental laboratory  
procedures**

*Codification numérique des procédures au laboratoire dentaire*

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Printed in Switzerland

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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 3.

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.

In exceptional circumstances, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example), it may decide by a simple majority vote of its participating members to publish a Technical Report. A Technical Report is entirely informative in nature and does not have to be reviewed until the data it provides are considered to be no longer valid or useful.

Attention is drawn to the possibility that some of the elements of this Technical Report may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO/TR 15599 was prepared by Technical Committee ISO/TC 106, *Dentistry*, Subcommittee SC 3, *Terminology*.

Annexes A and B of this Technical Report are for information only.

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## Introduction

Generally speaking, the aim of a “digital codification of dental laboratory procedures” is, in accordance with the codes of oro-dental health status and interventions (COSI), to introduce the advantages of standardization into the procedures of communication between the dental surgery (dental office, in the USA) and the dental laboratory.

Provisionally, the country code used in the examples herein is that of the international cable telephone. Some new developments presently occurring in the maintenance of the ISO country codes and its proposed use for Internet could make convenient a revision of this choice. A decision on that is pending.

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# Digital codification of dental laboratory procedures

## 1 Scope

This Technical Report provides a code of dental laboratory procedures which is digital so as to render it language-independent. This makes it convenient to use as a basic reference (a hub) for existing or future dental codes, and ensures their compatibility through simple softwares, which is the fundamental goal of the exercise.

In addition the digital code is intended to provide, as a result of built-in indexing functions:

- the identification and traceability of dental prostheses and materials, epidemiology and forensic dentistry, investment planning, teaching, research, industry, insurance systems, social services and regulatory authorities;
- the creation of performing databases for the field evaluation of materials, design and construction techniques of dental prostheses, and their effects, wanted or unwanted;
- the possibility of communication between the dental professions, dental industry and trade, on both qualitative and quantitative scales.

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## 2 Normative references

[ISO/TR 15599:2002](#)

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The following normative documents contain provisions which, through reference in this text, constitute provisions of this Technical Report. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this Technical Report are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 3950:1984, *Dentistry — Designation system for teeth and areas of the oral cavity*

ISO 8601:1988, *Data elements and interchange formats — Information interchange — Representation of dates and times*

ISO/TR 13668:1998, *Digital coding of oral health and care*

## 3 Principle

This proposal for a digital codification of dental laboratory procedures has the unique character of being based on:

- a) the OSI Index, through which the need for prosthetic procedures can be directly deduced from the oral status of the patient;
- b) a decimal logic, providing, through the individual value of the digit and its rank in a 13-element digital phrase compatible with most bar codes, easy identification and evaluation of the various characteristics of the prosthetic procedure;

- c) additional codes (not present in ISO 3950):
- missing tooth or teeth to be replaced in each quadrant shall be coded as follows:
    - 91 each missing tooth in the upper right quadrant;
    - 92 each missing tooth in the upper left quadrant;
    - 93 each missing tooth in the lower left quadrant;
    - 94 each missing tooth in the lower right quadrant;
  - missing temporary tooth or teeth to be replaced in each quadrant shall be coded as follows:
    - 95 each missing temporary tooth in the upper right quadrant;
    - 96 each missing temporary tooth in the upper left quadrant;
    - 97 each missing temporary tooth in the lower left quadrant;
    - 98 each missing temporary tooth in the lower right quadrant;
  - supernumerary teeth shall be indicated by repeating the code of the closest normal tooth.

Access to the data is protected to make sure that only the authorized user can use them.

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## 4 Syntax

ISO/TR 15599:2002

### 4.1 Software opening file line

Such a file line is useful in the case when, in a dental surgery, the dentist may not need to open this software every day. On the other hand, this software may be in constant operation in the dental laboratory. Having an opening file line provides this possibility.

EXAMPLE "isolab.e" for "ISO 15599 code for dental laboratory procedures, English version".

### 4.2 Dentist's identification code line

This code line reads as follows:

- a) 3 digits are presently dedicated to the identification of the country: International cable telephone code or ISO country code;
- b) 2 digits are for the subdivision in the country: county, state, territory or other administrative area division;
- c) 3 digits are for the concerned activity;
- d) 5 digits for the dentist's individual registration number.



Country	Area	Activity	Dentist
ØØØ	ØØ	ØØØ	ØØØØØ
---	--	---	-----
3 digits	2 digits	3 digits	5 digits

#### 4.3 Laboratory identification code line

This code line reads as follows:

- 3 digits are dedicated to the identification of the country;
- 2 digits are for the subdivision in the country: county, state, territory or other administrative area division;
- 3 digits are for the concerned activity;
- 5 digits are for the identified manufacturer inside the considered profession.

Country	Area	Activity	Manufacturer
ØØØ	ØØ	ØØØ	ØØØØØ
---	--	---	-----
3 digits	2 digits	3 digits	5 digits

#### 4.4 Code line for the identification of a custom-made medical device

This code line reads as follows:

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[https://standards.iteh.ai/catalog/standards/sist/ff670943-58b4-4027-a629-](https://standards.iteh.ai/catalog/standards/sist/ff670943-58b4-4027-a629-15599-2002)

- 6 digits for the requested date of delivery (ISO 8601);
- 1 digit for the OSI Index (ISO/TR 13668), according to the main intended use;
- 2 digits for the number of teeth concerned and/or replaced by the device(s);
- 3 digits for the laboratory device production number (these may be assigned, following the decision of the laboratory management, to a random or chronological order, by day, week or month);
- 1 digit as opening key of the following code line, or closure of the code line (for instance, label printing).

a.	b.	c.	d.	e.
ØØØØØØ	Ø	ØØ	ØØØ	Ø
-----	-	--	---	-
6 digits	1 digit	2 digits	3 digits	1 digit

**4.5 Code line for the description and site of the medical device**

This code line reads as follows:

- a) 2 digits for the type of device, according to COSI (ISO/TR 13668);
- b) 1 digit for the number of different materials of which the device is made;
- c) 2 digits for the number of teeth replaced, restored or modified;
- d) 2 digits reserved for further description of the device, for instance: age of the patient (when the patient is more than one hundred years old, code 00);
- e) 4 digits (2+2) for the concerned sectors or sextants or areas (ISO 3950);
- f) 1 digit for the number of different devices;
- g) 1 digit for closure of the code line or as opening key to the following code line.

a.	b.	c.	d.	e.	f.	g.
00	0	00	00	0000	0	0
--	-	--	--	----	-	-
2 digits	1 digit	2 digits	2 digits	4 digits	1 digit	1 digit

**4.6 Identification and origin of the device constituent materials**

ISO code material(s)	Dental metals and alloys <a href="https://standards.iteh.ai/catalog/standards/sist/f670943-580-4-027-029-9107-00000/iso-tr-15599-2002">ISO/TR 15599:2002</a>				Ceramic materials or polymers			Closure key	
	Nature Base Clause 6	Type Second constituent Clause 6	Class Standard number Clause 6	2 digits by which the laboratory codes the origin of the product	Category Clause 7	Classification Clause 7	2 digits by which the laboratory codes the origin of the product		
00 <sup>a</sup>	0	0	0	00	0	0	0	00	0
--	-	-	-	--	-	-	-	--	-

<sup>a</sup> = If the number is 84? or 88 or 89?, another code line is opened.

This code line reads as follows:

- a) 2 digits for the general identification of material or materials;
- b) 3 digits for the identification of:
  - nature or base;
  - type or second constituent;
  - class or applicable standard;
- c) 2 digits by which the laboratory codes the manufacturer or provider of the materials constituting the medical device;

- d) 3 digits for the individual identification of the second material, if applicable;
- e) 2 digits by which the laboratory codes the manufacturer or provider of the second material constituting the medical device;
- f) 1 digit for closure of the code line or as opening key to the following code line.

a.	b.	c.	d.	e.	f.
∅∅	∅∅∅	∅∅	∅∅∅	∅∅	∅
--	---	--	---	--	-
2 digits	3 digits + 2 digits		3 digits + 2 digits		1 digit

**4.7 Optional code line for the identification of missing tooth/teeth to be replaced in individual prostheses**

The individual prosthesis can be further described (see ISO 3950 and clause 3). This code line reads as follows:

- a) 2 digits for the 1<sup>st</sup> tooth on one side (from ISO 3950);
- b) 2 digits: for no tooth;
- c) 2 digits: for the 2<sup>nd</sup> tooth on the other side;
- d) 2 digits: for the 3<sup>rd</sup> tooth on one side;
- e) 2 digits for no tooth;
- f) 2 digits for the 4<sup>th</sup> tooth on the other side;
- g) 1 digit for key to open one other line or to close the code.

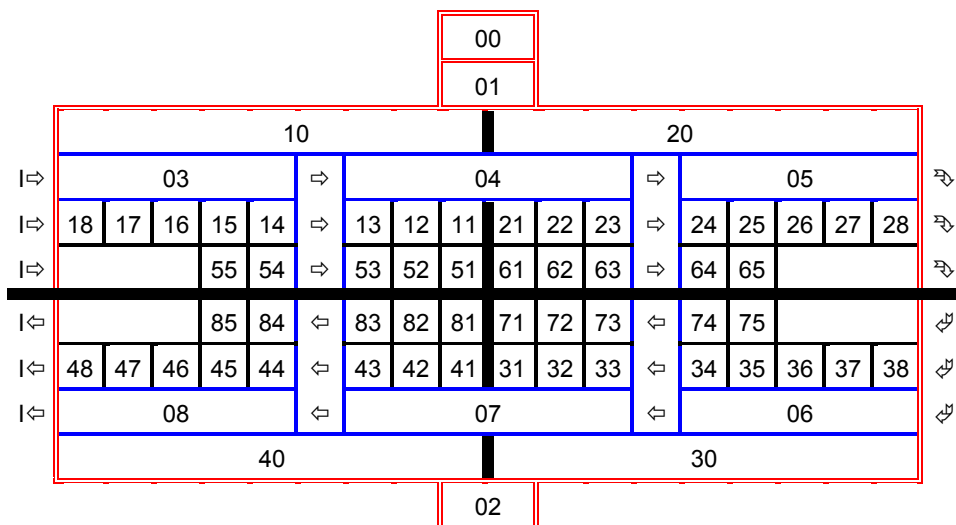
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EXAMPLE 1    16 91 13 23 92 26 8 = between 16 and 13: No tooth; between 23 and 26: no tooth ;

EXAMPLE 2    91-15 = posterior edentalus.

write codes from 18 to 28



← = write codes from 38 to 48