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Dentistry — Interoperability of CAD/CAM systems

Médecine bucco-dentaire — Interopérabilité des systèmes de CFAO

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 106, *Dentistry*, Subcommittee SC 9, *Dental CAD/CAM systems,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 55, *Dentistry,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 18618:2018), which has been technically revised.

The main change compared to the previous edition is: the XML schema for IDS (interface for dental CAD/CAM systems) and the examples of interoperability of dental products relating to dental implant systems, removables, dental appliances and orthodontics have been updated in Annex A due to the fast nature of the software system innovation and the need for ongoing testing.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

Manufacturers of dental CAD/CAM systems differ in how they exchange manufacturing information and three dimensional data. This causes difficulty in data processing, design processes and manufacturing processes for users of those systems. In order to overcome these interoperability issues, this document has been prepared to facilitate open interoperability between CAD/CAM systems in dentistry.

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Dentistry — Interoperability of CAD/CAM systems

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1 Scope

This document specifies an extensible markup language (XML) format to facilitate the transfer of dental case data and CAD/CAM data between software systems.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1942, *Dentistry — Vocabulary*

ISO 3166-1, *Codes for the representation of names of countries and their subdivisions — Part 1: Country code*

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

ISO 16443, *Dentistry — Vocabulary for dental implants systems and related procedure*

ISO 18739, *Dentistry — Vocabulary of process chain for CAD/CAM systems*

W3C — Extensible Markup Language (XML) 1.0 (Fifth Edition), November 2008

W3C XML Schema Definition Language (XSD) 1.1, April 2012

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 1942, ISO 16443, ISO 18739, W3C XML 1.0, W3C XML XSD 1.1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1 General terms

3.1.1
broker
entity that acts as a middleman or intermediary

Note 1 to entry: Such organizations take multiple orders from multiple sources and consolidate them into a single order for a provider or they take single orders from an originator and split them among multiple providers or they just pass orders through between originators and providers.

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