
Dentistry — Water-based cements —
Part 1:
Powder/liquid acid-base cements

Art dentaire — Ciments à base d'eau —

Partie 1: Ciments acido-basiques liquides/en poudre



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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 9917-1 was prepared by Technical Committee ISO/TC 106, *Dentistry*, Subcommittee SC 1, *Filling and restorative materials*.

This second edition cancels and replaces the first edition (ISO 9917-1:2003), of which it constitutes a minor revision.

The main purpose for modification of this part of ISO 9917 was to include a new test method for acid erosion, a new test and requirement for radio-opacity and to distinguish between the requirements for manufacturer's instructions for hand-mixed cements and those for capsulated cements.

Specific qualitative and quantitative requirements for freedom from biological hazard are not included in this part of ISO 9917, but it is recommended that, in assessing possible biological or toxicological hazards, reference should be made to ISO 7405 and ISO 10993-1.

A bibliography has been added to this document.

ISO 9917 consists of the following parts, under the general title *Dentistry — Water-based cements*:

- *Part 1: Powder/liquid acid-base cements*
- *Part 2: Light-activated cements*

Dentistry — Water-based cements —

Part 1: Powder/liquid acid-base cements

1 Scope

This part of ISO 9917 specifies requirements and test methods for powder/liquid acid-base dental cements intended for permanent cementation, lining and restoration. This part of ISO 9917 is applicable to both hand-mixed and capsulated cements for mechanical mixing. This part of ISO 9917 specifies limits for each of the properties according to whether the cement is intended for use as a luting agent, a base or liner or as a restorative material. This part of ISO 9917 is not intended to address resin-modified water-based cements.

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 2590, *General method for the determination of arsenic — Silver diethyldithiocarbamate photometric method*

ISO 3665:1996, *Photography — Intra-oral dental radiographic film — Specification*

ISO 3696:1987, *Water for analytical laboratory use — Specification and test methods*

ISO 7491, *Dental materials — Determination of colour stability*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

mixing time

that part of the working time required in order to obtain a satisfactory mix of the components

3.2

working time

period of time, measured from the start of mixing, during which it is possible to manipulate a dental material without an adverse effect on its properties

3.3

net setting time

period of time, measured from the end of mixing, until the material has set according to the criteria and conditions specified in Annex A

NOTE For the purposes of this part of ISO 9917, in view of the wide variation in mixing times of cements, the net setting time is determined from the end of mixing.