
**Dentistry — Water-based cements —
Part 2:
Resin-modified cements**

*Médecine bucco-dentaire — Ciments à base d'eau —
Partie 2: Ciments modifiés par addition de résine*

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Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Classification and applications	2
4.1 Classification.....	2
4.2 Applications.....	2
5 Requirements	3
5.1 Materials.....	3
5.2 Working time.....	3
5.3 Setting time — Class 1 and Class 3 materials only.....	3
5.4 Film thickness — Luting materials only (see 4.2).....	3
5.5 Flexural strength.....	3
5.6 Radio-opacity.....	3
5.7 Shade and colour stability — Restorative materials only.....	3
6 Sampling	3
7 Test conditions and preparation of test specimens	4
7.1 Test conditions.....	4
7.2 Method of mixing.....	4
7.3 Inspection.....	4
8 Packaging, marking and information to be supplied by the manufacturer	4
8.1 Packaging.....	4
8.2 Marking and instructions for use.....	5
Annex A (normative) Determination of working time and setting time	8
Annex B (normative) Determination of film thickness — Luting materials only	10
Annex C (normative) Determination of flexural strength	12
Annex D (normative) Determination of radio-opacity	17
Annex E (normative) Determination of shade and colour stability — Restorative (except for tooth core build-up) and luting materials only	19
Bibliography	21

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 on 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 the following URL: www.iso.org/iso/foreword.html.

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

This third edition cancels and replaces the second edition (ISO 9917-2:2010), which has been technically revised.

The main changes compared to the previous edition are as follows:

- the adoption of ISO 13116 as the measuring procedure of the test method for radio-opacity;
- the inclusion of tooth core build-up as a restoration in the scope;
- the adoption of other minor technical revisions in the test methods.

A list of all parts of the ISO 9917 series can be found on the ISO website.

Introduction

This document has been prepared in order to present the requirements and test methods for cements in which setting is achieved by a combination of an acid-base reaction and polymerization. The polymerization component of the reaction may be activated by mixing different components or through application of energy from an external source. As far as possible, test methods employed within this document have been harmonized with those used in ISO 4049 and ISO 9917-1.

No specific qualitative and quantitative requirements for ensuring the absence of biological hazard are included in this document, but it is recommended that reference be made to ISO 10993-1 and ISO 7405 when assessing possible biological or toxicological hazards.

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Dentistry — Water-based cements —

Part 2: Resin-modified cements

1 Scope

This document specifies requirements and test methods for water-based dental cements in which setting is achieved by a combination of an acid-base reaction and polymerization. The materials are intended for luting, base or lining, restoration and tooth core build up purposes.

EXAMPLE Conventional glass polyalkenoate cements are normally formed by reacting an ion-leachable aluminosilicate glass with a polyalkenoic acid in an aqueous environment. Materials that fall within the scope of this document will normally be able to effect setting by such an aqueous acid-base type reaction but in addition will be able to undergo setting by polymerization.

NOTE The attention of manufacturers and test laboratories is drawn to the closely-related International Standards ISO 4049 and ISO 9917-1 so that they can consider which is the most appropriate for evaluating any individual product.

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

ISO 6344-1, *Coated abrasives — Grain size analysis — Part 1: Grain size distribution test*

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

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

ISO 13116:2014, *Dentistry — Test method for determining radio-opacity of materials*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 1942 and the following apply.

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

- ISO Online browsing platform: available at <http://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1

mixing time

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

Note 1 to entry: Materials that fall within the scope of this document include materials that require mixing and single component materials that do not require mixing.