



**International
Standard**

ISO 9917-1

**Dentistry — Water-based
cements —**

**Part 1:
Acid-base cements**

Médecine bucco-dentaire — Ciments à base d'eau —

Partie 1: Ciments acido-basiques

**Third edition
2025-05**

**Corrected version
2025-10**

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

ISO 9917-1:2025

<https://standards.iteh.ai/catalog/standards/iso/44092820-a4c3-4d43-8c4b-48cbe43ac958/iso-9917-1-2025>

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

ISO 9917-1:2025

<https://standards.iteh.ai/catalog/standards/iso/44092820-a4c3-4d43-8c4b-48cbe43ac958/iso-9917-1-2025>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2025

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Classification	2
4.1 Chemical type	2
4.2 Application	2
5 Material	3
5.1 General	3
5.2 Components	3
5.2.1 Liquid	3
5.2.2 Powder	3
5.3 Unset cement	3
6 Preparation of test specimens	3
6.1 Ambient conditions	3
6.2 Method of mixing	3
7 Sampling	3
7.1 Hand-mixed cements	3
7.2 Encapsulated cements	3
8 Requirements	4
8.1 General	4
8.2 Net setting time (except pit and fissure sealing cements)	4
8.3 Film thickness (luting cements only)	4
8.4 Compressive strength	4
8.5 Acid erosion	4
8.6 Optical properties (polyalkenoate restorative cements only)	4
8.7 Acid-soluble arsenic and lead contents	4
8.7.1 Acid-soluble arsenic content	4
8.7.2 Acid-soluble lead content	4
8.8 Radiopacity (if claimed)	4
8.9 Net setting time (pit and fissure sealing cements only)	5
9 Packaging, marking, labelling and information to be supplied by manufacturer	5
9.1 General	5
9.2 Packaging	5
9.3 Declaration of components	8
Annex A (normative) Determination of net setting time (except for pit and fissure sealing cements)	9
Annex B (informative) Chemical composition and applications of dental cements	11
Annex C (normative) Determination of film thickness (luting cements only)	12
Annex D (normative) Determination of compressive strength	15
Annex E (normative) Determination of acid erosion	18
Annex F (normative) Determination of optical properties (polyalkenoate restorative cements only)	21
Annex G (normative) Determination of acid-soluble arsenic and lead contents	24
Annex H (normative) Determination of radiopacity (if claimed)	25
Annex I (normative) Determination of net setting time (pit and fissure sealing cements only)	27

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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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 1, *Filling and restorative materials*, 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 third edition cancels and replaces the second edition (ISO 9917-1:2007), which has been technically revised.

The main changes are as follows:

- change of the title;
- inclusion of pit and fissure sealing cements in the scope;
- adoption of ISO 13116 test method for radiopacity;
- adoption of table-type formatting of requirements of marking and information;
- addition of declaration of components;
- addition of Annex I.

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

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.

This corrected version of ISO 9917-1:2024 incorporates the following correction:

- the formula in [Clause D.3](#) has been corrected.

Introduction

This document specifies the requirements and test methods for cements in which setting is achieved by an acid-base reaction.

This document does not include specific qualitative and quantitative requirements for ensuring the absence of biological hazards. It is recommended that reference be made to ISO 10993-1 and ISO 7405 when assessing possible biological or toxicological hazards.

iTeh Standards
(<https://standards.itih.ai>)
Document Preview

[ISO 9917-1:2025](https://standards.itih.ai/catalog/standards/iso/44092820-a4c3-4d43-8c4b-48cbe43ac958/iso-9917-1-2025)

<https://standards.itih.ai/catalog/standards/iso/44092820-a4c3-4d43-8c4b-48cbe43ac958/iso-9917-1-2025>