
International Standard 3824

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Dental silicophosphate cement (hand-mixed)

Ciments dentaires aux silicophosphates (mélange manuel)

Second edition — 1984-06-01

UDC 615.463 : 616.314

Ref. No. ISO 3824-1984 (E)

Descriptors : dental materials, dental cements, materials specifications, tests, test specimen conditioning, setting time.

Price based on 12 pages

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been authorized 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 3824 was developed by Technical Committee ISO/TC 106, *Dentistry*, and was circulated to the member bodies in April 1982.

It has been approved by the member bodies of the following countries :

Australia	India	Poland
Belgium	Ireland	South Africa, Rep. of
Canada	Japan	Sweden
Czechoslovakia	Mexico	Switzerland
Egypt, Arab Rep. of	Netherlands	United Kingdom
France	New Zealand	USA
Germany, F.R.	Norway	USSR

No member body expressed disapproval of the document.

This second edition cancels and replaces the first edition (i.e. ISO 3824-1977).

Dental silicophosphate cement (hand-mixed)

0 Introduction

This revision of ISO 3824 has been based on ISO 1565 and ISO 1566, both of which cover materials whose characteristics are closely related to silicophosphate cements.

Most of the changes from the previous edition stem from the use of a much smaller test specimen than before. The reason for using the small specimen is to align the test methods for hand-mixed materials as closely as possible with those for encapsulated materials. In general, this has merely necessitated some adjustments in technique to accommodate the smaller test specimen, but in some instances, the water-leachable material test in particular, more basic changes in the test method have been made.

The scope of this specification covers silicophosphate material whether formulated for use either as a filling material or for luting purposes. However, in the text it has been found more convenient, as well as in accordance with common usage, to make no distinction between the description applied to the different types of materials; the term "cement" has therefore been used throughout.

Toxicity requirements are not covered in this International Standard but it is recommended that in assessing possible biological or toxicological hazards, reference should be made to ISO/TR 7405.

A number of editorial improvements have also been introduced to clarify the wording and presentation of this revision. In the light of a continuing review of technological advances and well-documented technical data, future revisions of this International Standard will be considered as and when they appear to be appropriate.

1 Scope

This International Standard specifies the requirements for hand-mixed dental cement, based on the hardening reaction between a powder made from ground, acid soluble, aluminosilicate glass and metal oxides principally zinc oxide, with an aqueous solution of phosphoric acid which may contain metal ions.

2 Field of application

The cements covered by this International Standard are those used as luting agents to seal dental appliances to hard oral structures or to other appliances.

These cements can also be used as restorative materials by increasing the ratio of powder to liquid relative to that used for luting.

3 References

ISO 1565, *Dental silicate cement (hand-mixed)*.

ISO 1566, *Dental zinc phosphate cement*.

ISO 2014, *Writing of calendar dates in all-numeric form*.

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

ISO/TR 7405, *Biological evaluation of dental materials*.

4 Classification

Silicophosphate cement covered by this International Standard shall be of the following types :

- Type I — Luting agent
- Type II — Restorative material

5 Requirements

5.1 Material

The cement shall consist of a powder and a liquid which, when mixed according to the manufacturer's instructions, will set to a cement which will comply with the requirements of this International Standard.