

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 1561

DENTAL INLAY CASTING WAX

1st EDITION

June 1970

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Printed in Switzerland

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BRIEF HISTORY

The ISO Recommendation R 1561, *Dental inlay casting wax*, was drawn up by Technical Committee ISO/TC 106, *Dentistry*, the Secretariat of which is held by the British Standards Institution (BSI).

Work on this question led to the adoption of Draft ISO Recommendation No. 1561, which was circulated to all the ISO Member Bodies for enquiry in December 1968. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Australia	Greece	Poland
Belgium	India	South Africa, Rep. of
Brazil	Israel	Spain
Canada	Korea, Rep. of	U.A.R.
Czechoslovakia	Netherlands	United Kingdom
Denmark	New Zealand	U.S.A.
France	Peru	Yugoslavia

The following Member Bodies opposed the approval of the Draft :

Sweden
Switzerland

This Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided to accept it as an ISO RECOMMENDATION.

DENTAL INLAY CASTING WAX

INTRODUCTION

This ISO Recommendation is technically identical with F.D.I.* Specification No. 4, the only difference being in the wording and layout to bring the text into standard ISO form. Further studies are being undertaken to provide, if necessary, for a future revision of this ISO Recommendation in the light of technological advances supported by well-documented data.

NOTE. — Throughout this ISO Recommendation the figures for SI units are approximate conversions of the technical metric units using the conversion factor $1 \text{ N} = 0.102 \text{ kgf}$.

1. SCOPE

This ISO Recommendation gives the classification of and requirements for dental inlay casting wax, together with the test methods to be employed to determine compliance with these requirements.

2. FIELD OF APPLICATION

This ISO Recommendation is applicable to inlay casting wax used in making patterns in the production of inlays and crowns. The wax consists essentially of natural waxes, resins and hydrocarbons of the paraffin series.

3. CLASSIFICATION

The inlay wax delineated in this ISO Recommendation is of two types, namely *direct technique wax* intended primarily for intra-oral use, and *indirect technique wax* intended primarily for extra-oral use.

Each type should be classified as follows :

— **Type I :** Direct technique wax

Class 1 : Sticks

Class 2 : Cones

— **Type II :** Indirect technique wax

Class 1 : Sticks

Class 2 : Cones

4. REQUIREMENTS

4.1 Uniformity

The wax should be uniform and free from foreign materials.

4.2 Sizes

The sizes of the sticks and cones should be as specified by the purchaser.

4.3 Colour

The colour of the wax should be as specified by the purchaser.

4.4 Softening

The wax should soften when heated without becoming flaky. It should not show laminations when formed into a working mass.

4.5 Chipping

The wax should not show appreciable chipping or flaking when trimmed to a fine margin at 23 ± 2 °C.

4.6 Residue

The melted wax when vaporized at 500 °C should leave no solid residue in excess of 0.10 % of the original mass of the specimen when tested in accordance with clause 6.2.3.

4.7 Flow

The samples of the wax, when submitted to the test described in clause 6.2.1, should give flow results complying with the requirements given below for the type of wax and the different temperatures of testing.

Test temperature	30 °C	37 °C	40 °C	45 °C
Type I wax		≤ 1.0 %	≤ 20 %	≥ 70 % ≤ 90 %
Type II wax	≤ 1.0 %		≥ 50 %	≥ 70 % ≤ 90 %

4.8 Linear thermal expansion, Type I wax

4.8.1 From 25.0 to 30.0 °C the linear thermal expansion should be not more than 0.2 % when tested as detailed in clause 6.2.2.

4.8.2 From 25.0 to 37.0 °C the linear thermal expansion should be not more than 0.6 % when tested as detailed in clause 6.2.2.

4.9 Manufacturer's instructions

Instructions, including the method for softening and the working temperature, should be supplied with each package of wax. In addition, data showing the thermal expansion of the Type I wax from 25 to 30 °C and from 25 to 37 °C should accompany each package of that wax (see clause 4.8).