



American National Standard/
American Dental Association
Specification No. 2

Dental Gypsum- Bonded Casting Investments

Identical to ISO 7490:2000



American Dental Association
Council on Scientific Affairs 2002

**AMERICAN NATIONAL STANDARD/AMERICAN DENTAL ASSOCIATION
SPECIFICATION NO. 2 FOR DENTAL GYPSUM-BONDED CASTING INVESTMENTS**

The Council on Scientific Affairs of the American Dental Association has approved revised American Dental Association Specification No. 2 for Dental Gypsum-bonded Casting Investments. This and other specifications for dental materials, instruments and equipment are being formulated by working groups of the ADA Standards Committee on Dental Products (formerly Accredited Standards Committee MD156 for Dental Materials, Instruments and Equipment). The Committee has representation from all interests in the United States in the standardization of materials, instruments and equipment in dentistry. The Council has adopted the specifications, showing professional recognition of their usefulness in dentistry, and has forwarded them to the American National Standards Institute with a recommendation that the specifications be approved as American National Standards. The American National Standards Institute granted approval of ADA Specification No.2 as an American National Standard on March 3, 2002. This standard becomes effective March 3, 2003.

The Council thanks the working group members and the organizations with which they were affiliated at the time the specification was developed:

Atul C. Sarma (chairman), Whip Mix Corporation, Louisville, KY; Dennis R. Davis, University of California, San Francisco, CA; Waldemar G. DeRijk, University of Tennessee, Memphis, TN; Frederick Eichmiller, ADA Paffenbarger Research Center, Gaithersburg, MD; Abdul Khan, CMP Industries, Albany, NY; Daniel Menis, Harry Bosworth Co., Chicago, IL; Carlos A. Munoz, Loma Linda University, Loma Linda, CA; Carl Panzera, American Thermocraft Corporation, Somerset, NJ; and Nikhil K. Sarkar, Louisiana State University, New Orleans, LA. The Chairman of Subcommittee 2 on Prosthodontic Materials is Clyde Ingersoll, Ivoclar/Ardent, Tonawanda, NY.

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FOREWORD

(This Foreword does not form a part of the Revised ANSI/ADA Specification No. 2 for Dental Gypsum-bonded Casting Investments)

This revision is an adoption of the ISO 7490 - 2000 for Dental Gypsum-bonded Casting Investments. The original name of this specification was "Dental Gypsum-bonded Casting Investment for Gold Alloys." In this revision the limitation to gold alloys has been removed and the title has been changed to reflect this.

ADA SCDP Subcommittee 2: Prosthodontic Materials, Working Group 2.18 on Investments, examined the standard and found it acceptable.

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1 SCOPE

This specification establishes a classification of, and specifies requirements for, gypsum-bonded casting investments. It also specifies test methods to be used to determine compliance with these requirements.

2 TERM AND DEFINITION

For the purposes of this specification, the following term and definition applies.

2.1 Dental gypsum-bonded casting investment:

Powder mixture of calcium sulfate hemihydrate and silica and/or other refractory materials

NOTE The powder may also contain small quantities of modifying agents.

3 CLASSIFICATION

Dental gypsum-bonded casting investments are classified as follows:

Type 1: For casting inlays and crowns.

Type 2: For casting complete and partial denture bases.

In its classification, a particular material need not be restricted to only one type.

4 REQUIREMENTS

4.1 Appearance of powder

When examined visually (6.1), the powder shall be of uniform appearance and free from foreign matter and lumps.

4.2 Fluidity at working time

When tested in accordance with 6.2, the diameter of the set material shall be at least 60 mm for Type 1 and 40 mm for Type 2 materials.

4.3 Setting time

When tested in accordance with 6.3, the Vicat time shall not vary by more than 20 % from the manufacturer's claimed setting time. If the manufacturer claims a range, then the setting time shall not vary by more than 20 % from the midpoint of this range.

4.4 Compressive strength

When tested in accordance with 6.4, Type 1 materials shall have a minimum compressive strength of 2.3 MPa and Type 2 materials shall have a minimum compressive strength of 2.6 MPa.