



American National Standard/  
American Dental Association  
Specification No. 13

# Denture Cold-Curing Repair Resins

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**AMERICAN NATIONAL STANDARD/AMERICAN DENTAL ASSOCIATION SPECIFICATION NO. 13 FOR  
DENTURE COLD-CURING REPAIR RESINS**

Revised American Dental Association Specification No. 13 for Denture Cold-Curing Repair Resin has been approved by the Council on Dental Materials, Instruments and Equipment of the American Dental Association. This and other specifications for dental materials, instruments and equipment are being formulated by subcommittees of the American National Standards Committee MD156 for Dental Materials, Instruments and Equipment. The Council acts as the administrative sponsor of that committee, which 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. Approval of Revised ADA Specification No. 13 as an American National Standard was granted by the American National Standards Institute on May 8, 1981.

The Council acknowledges, with thanks, the work of the subcommittee members who formulated the revision: Gerhard Brauer (chairman), National Bureau of Standards, Washington, D.C.; Sheldon Winkler, Temple University, Philadelphia; George Cowperthwaite, Esschem Co., Essington, Pa.; Emery Dougherty, L.D. Caulk Co., Milford, Del; Eugene Huget, J.M. Ney Co., Bloomfield, Conn; Andrew Koran, University of Michigan, Ann Arbor; Robert McConnell, University of Texas, San Antonio; Zaker Sabri, American Dental Association, Chicago; and Julian Woelfel, Columbus, Ohio.

This revision was undertaken to make this specification independent of ANSI/ADA Specification No. 12 for Denture Base Polymer, which previously formed a significant part of ANSI/ADA Specification No. 13. To more clearly define the composition of materials, the specification is restricted to materials that contain acrylic polymers or copolymers of mixtures thereof and are capable of autoinitiated polymerization.

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**FOREWORD**

(This foreword does not form a part of ANSI/ADA Specification No. 13 for Denture Cold-Curing Repair Resin.)

This revision was undertaken to make this specification independent of ANSI/ADA Specification No. 12 for Denture Base Polymer which previously formed a significant part of Specification No. 13.

Significant changes in this revised specification have been made in Sections 1.1, 3.1.1, 3.1.2.2, 3.2.11, 4.3.2.1, 4.3.2.2, 4.3.3, 4.3.7, 4.3.8, and 5.2.5.

These changes are as follows:

- 1.1 The specification is restricted to materials which contain acrylic polymers or copolymers or mixtures thereof and which are capable of auto-initiated polymerization to more clearly define the composition of materials.
- 3.1.1 The minimum net content of powder or liquid in a unit package is clearly stated (99% of the contents stated on the label of each immediate container).
- 3.1.2.2 This test is more rapidly conducted and is as specific as the viscosity test previously employed.
- 3.2.11 Details of the mold characteristics and specimen preparation are given.
- 4.3.2.1 A slight modification in the mold characteristics and preparation previously used.
- 4.3.2.2 Details are given for mixing of the resin, filling the mold and curing the resin.
- 4.3.7 The method of preparing transverse deflection test specimens has been changed. Individual specimens are prepared rather than curing a block of material and cutting the block into test specimens. The revised procedure is easier to conduct and the amount of material cured is closer to the quantity used under clinical conditions.
- 4.3.8 The color stability test employs the Westinghouse RS light source instead of the S-1 bulb which is no longer available. The height of the lamp above the specimen shall be such that the ultraviolet radiation at the specimen level is  $1700 \pm 100$  microwatts per  $\text{cm}^2$ .
- 5.2.5 The upper limit at which the liquid can be stored must be given on the unit package and the immediate container so that the material is not spoiled due to excessive temperature on storage.

Tests to show bonding between the repair and denture base resins have been investigated by the Subcommittee, but none was found adequate to be included in the revised specification.

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**1 SCOPE AND CLASSIFICATION**

**1.1 Scope**

This specification is for pink and clear denture repair resins, of powder-liquid type which are used primarily for the repair of acrylic resin denture bases. It is restricted to materials which contain monomers and comonomers usually of the acrylic type of mixtures thereof which are capable of auto-initiated polymerization and which bond to denture base polymers of composition outlined in ANSI/ADA Specification No. 12 for Denture Base Polymers.

**NOTE:** Denture bases which have fractured repeatedly in service should not be repaired. In such instances new dentures should be made because the repeated failures are probably due to one or more factors such as improper design or construction, occlusal imperfections, or deterioration of fit due to changes in supporting structures.

**1.2 Types and classes.** The materials covered by this specification are not subdivided by type and class.

**2 APPLICABLE SPECIFICATIONS**

**2.1 Specifications**

American National Standards N210.1 (ASTM 380) Metric Practice Guide is used as a guide in selecting symbols and units of measurement, procedures for style and usage, and for procedures for conversion and rounding off ANSI/ADA Specifications.

Copies may be upon application to the American National Standards Institute, 25 W. 43rd St., New York, NY 10036.

ANSI/ADA Document No. 41 for Recommended Standard Practices for Biological Evaluation of Dental Materials.

Copies may be obtained upon application to the American Dental Association, Dept. of Standards Administration, 211 E. Chicago Ave., Chicago, IL 60611.

**3 REQUIREMENTS**

**3.1 Materials as received**

**3.1.1 Net Content**

The net contents of the powder and liquid furnished in a unit package shall be no less than 99% of the contents stated on the label of each immediate container (5.2.3).

**3.1.2 Liquid**

**3.1.2.1 Clarity**

The liquid shall be clear and substantially free of deposits or sediment.