

JIS

JAPANESE INDUSTRIAL STANDARD

**Dental Agar Impression
Material**

JIS T 6512—1990

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In the event of any doubt arising,
the original Standard in Japanese is to be final authority.

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Dental Agar Impression Material

T 6512-1990

1. Scope

This Japanese Industrial Standard specifies impression materials consisting mainly of agar which are used in the mouth, hereinafter referred to as the "impression materials".

Remark: Those units and numerical values shown in { } in this Standard are based on the conventional system of units and are appended for reference.

2. Quality

2.1 General Properties Impression materials shall be uniform in composition and be free from foreign substances.

In addition, they shall be suitable of taking impressions in oral cavity and preparation of dental model when used according to the method specified by the manufacturer.

2.2 Odour and Flavor Impression materials shall be free from unpleasant odour or flavor.

2.3 Irritation Actions Impression materials, when used according to the method specified by the manufacturer, shall not cause irritation actions to the touched normal oral cavity relating tissue.

2.4 Gelation Temperature When tested according to 3.3, the gelation temperature shall be 37 to 45°C, inclusive.

2.5 Extrusibility When tested according to 3.4, impression materials shall be capable of being extruded from hollow needle or tube with an inner diameter of within 0.6 mm.

2.6 Consistency When impression materials are subjected to softening adjustment and extruded by the methods specified by the manufacturer, they shall have sufficient plasticity for pouring into the tray, and when the tray exclusive for impression material is inverted at 43 to 50°C, they shall not run out within 15 s.

In addition, the components shall not separate during the gelation process of the impression material.

2.7 Compatibility with Gypsum Impression materials shall have sufficient plasticity and, be capable of reproducing precisely the fine shape in the oral cavity. The impression obtained shall be able to be separated easily from the hardened gypsum model and give the smooth surface to the model, and when tested according to 3.5, the model prepared by pouring gypsum slurry into the impression material shall reproduce the fine line of 75 µm width.

2.8 Permanent Deformation When tested according to 3.6, the permanent deformation shall be not more than 1.5 %.

Applicable Standards and Corresponding International Standard: See page 10.

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2.9 Strain in Compression When tested according to 3.7, the strain in compression shall be not less than 4 % and not more than 15 %.

2.10 Compressive Strength When tested according to 3.8, the compressive strength shall be not less than 0.2 MPa {2 kgf/cm²}.

3. Tests

3.1 Test Conditions All the tests shall be performed in a uniform environment at a temperature of $23 \pm 2^\circ\text{C}$ and a relative humidity of $50 \pm 10\%$. The impression material and the test apparatus shall preliminarily be placed in the testing room under the same conditions as above at least for 10 hours.

Further, the test apparatus shall be made of a materials not to be eroded by the impression material.

3.2 Test Items The test items shall be as follows:

- (1) Gelation temperature test
- (2) Extrusibility test
- (3) Compatibility test with gypsum
- (4) Permanent deformation test
- (5) Test of stain in compression
- (6) Compressive strength test.

3.3 Gelation Temperature Test

3.3.1 Apparatus The apparatus used shall be as shown in Fig. 1.

Fig. 1. Apparatus for Gelation Temperature Test

