
International Standard



4708

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Cork — Composition cork gasket material — Test methods

Liège — Aggloméré composé pour joints pour industries mécaniques — Méthodes d'essai

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

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Cork — Composition cork gasket material — Test methods

1 Scope and field of application

This International Standard specifies the test methods to be used for the determination of the following characteristics of composition cork material intended to be used as gasket for mechanical industries: thickness; apparent density; tensile strength; compressibility and recovery; dimensional changes; flexibility; resistance to boiling water, oil and fuel.

2 Reference

ISO 7322, *Cork — Composition cork — Test methods*.¹⁾

3 Reagents

3.1 ASTM No. 1 oil.

3.2 Reference fuel, (65 % alkylate iso-octane, 35 % toluene).

4 Apparatus

See ISO 7322, clause 3, and

4.1 Open containers, for test fluids (oil and fuel).

4.2 Mandrels, of various diameters.

5 Test pieces

5.1 Preparation

Cut test pieces from different positions in the sample, two in the longitudinal direction and the others in the transverse direction.

The dimensions of the test pieces shall be in accordance with the following table.

Table — Dimensions and number of test pieces

Tests	Dimensions of the test pieces mm	Number of test pieces
Dimensional change	300 × 15	4
Flexibility	150 × 15	4

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5.2 Conditioning

See ISO 7322, sub-clause 4.2.

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6 Tests

6.1 Thickness

See ISO 7322, sub-clause 5.1.

6.2 Apparent density

6.2.1 Procedure

See ISO 7322, sub-clause 5.2.1.

6.2.2 Expression of results

See ISO 7322, sub-clause 5.2.2.

6.3 Tensile strength

6.3.1 Procedure

See ISO 7322, sub-clause 5.3.1.

6.3.2 Expression of results

See ISO 7322, sub-clause 5.3.2.

1) At present at the stage of draft.

6.4 Compressibility and recovery

6.4.1 Procedure

See ISO 7322, sub-clause 5.4.2.

6.4.2 Expression of results

See ISO 7322, sub-clause 5.4.3.

6.5 Dimensional change

6.5.1 Procedure

Place the test pieces for 4 h in the conditioning chamber, controlled at a temperature of 50 ± 2 °C and $95 \% \pm 2$ % relative humidity. Allow to cool to 20 ± 2 °C and $95 \% \pm 2$ % relative humidity for 20 h in the chamber. Remove the test pieces and measure the length of the test pieces l_0 , using the rule. Place for 24 h in the oven, controlled at 103 ± 2 °C. Remove the test pieces from the oven and allow to cool in the dessicator for 24 h. Measure the length l_1 of the test pieces, using the rule.

6.5.2 Expression of results

The dimensional change, expressed as a percentage, is given by the formula

$$\frac{l_0 - l_1}{l_0} \times 100$$

where

l_0 is the initial length, in millimetres, of the test pieces rounded off to the nearest integer;

l_1 is the final length, in millimetres, of the test pieces rounded off to the nearest integer.

The dimensional change shall be the average of the values obtained from each test piece.

Express the result rounded off to the nearest integer.

6.6 Flexibility

6.6.1 Procedure

Bend the test pieces through 180° round a mandrel (4.2) of a diameter 5 times the thickness of the sample for materials up to 3 mm thick, or 7 times the thickness of the sample for materials over 3 mm thick.

6.6.2 Expression of results

The result of the test is expressed by stating the presence or absence of breakage in the test pieces¹⁾.

6.7 Resistance to boiling water

6.7.1 Procedure

See ISO 7322, sub-clause 5.5.1.

6.7.2 Expression of results

See ISO 7322, sub-clause 5.5.2.

6.8 Resistance to oil

6.8.1 Procedure

Place the test pieces in the oil (3.1), at 100 ± 2 °C for 24 h. Remove the test pieces from the oil and make a visual examination.

6.8.2 Expression of results

The result of the test is expressed by stating the presence or absence of disintegration²⁾ in the test pieces.

6.9 Resistance to fuel

6.9.1 Procedure

Place the test pieces in the reference fuel (3.2) at ambient temperature for 24 h. Remove the test pieces from the fuel and make a visual examination.

6.9.2 Expression of results

The result of the test is expressed by stating the presence or absence of disintegration²⁾ in the test pieces.

7 Test report

The test report shall include the following information :

- a) all details required to identify the sample completely;
- b) the results obtained;
- c) all details of procedure not specified in this International Standard or optional;
- d) any occurrences that may have affected the results.

1) The absence of breakage shall imply no breakage throughout the granules of cork or separation of the granules.

2) A test piece is said to disintegrate if it spits open and/or if it shows substantial loss of particles during the test.