
International Standard



5473

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Rubber- or plastics-coated fabrics — Determination of crush resistance

Supports textiles revêtus de caoutchouc ou de plastique — Détermination de la résistance à l'écrasement

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Descriptors : coated fabrics, fabrics coated with rubber, fabrics coated with plastics, tests, crushing tests, compression tests.

Foreword

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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.

International Standard ISO 5473 was developed by Technical Committee ISO/TC 45, *Rubber and rubber products*, and was circulated to the member bodies in June 1977.

It has been approved by the member bodies of the following countries :

Austria	Greece	Sweden
Belgium	Hungary	Thailand
Brazil	Korea, Rep. of	Turkey
Bulgaria	Mexico	United Kingdom
Canada	Poland	USA
Czechoslovakia	Romania	USSR
Egypt, Arab Rep. of	South Africa, Rep. of	Yugoslavia
France	Spain	

No member body expressed disapproval of the document.

Rubber- or plastics-coated fabrics — Determination of crush resistance

1 Scope and field of application

This International Standard specifies a method for determining the crush resistance of fabrics coated with rubber or plastics.

The method is applicable particularly to diaphragm material cut from coated fabrics.

2 Reference

ISO 2231, *Fabric coated with rubber or plastics — Standard atmospheres for conditioning and testing*.

3 Principle

The coated fabric is subjected to a controlled load application over a known area until the fabric is crushed.

4 Apparatus

4.1 Base plate, having the dimensions shown in figure 1.

4.2 Load button assembly, having the dimensions shown in figure 2.

4.3 Compression testing machine, having a speed of approximately 0,08 mm/s.

Any other type of machine that will meet this requirement may also be used. For example, a platform scale equipped with a yoke over the platform and a hand-operated screw to apply the force will serve if it conforms to the requirements prescribed for accuracy and speed.

The load source shall have a total capacity of at least 5 400 N.

4.4 Force-recording mechanism : a calibrated dial with a maximum pointer, or a strip-chart to indicate force required to crush the fabric.

Unless otherwise specified for force determination, the machine shall be so adjusted that the maximum force required to crush the test piece may be readily detected by the maximum pointer or read from the strip-chart.

The error of the machine shall not exceed 2 % up to and including 200 N force and 1 % over 200 N force at any reading within the loading range.

5 Test pieces

The test pieces shall be at least 50 mm wide and 200 mm long. At least three test values shall be obtained from each sample.

6 Time-interval between manufacturing and testing

6.1 For all purposes, the minimum time between manufacturing and testing shall be 16 h.

6.2 For non-product tests, the maximum time between manufacturing and testing shall be 4 weeks and for evaluations intended to be comparable, the tests, as far as possible, should be carried out after the same time-interval.

6.3 For product tests, whenever possible, the time between manufacturing and testing should not exceed 3 months. In other cases, tests shall be made within 2 months of the date of receipt by the customer.

7 Conditioning and testing atmosphere

The test pieces shall be conditioned and tested in atmosphere A of ISO 2231.

8 Procedure

8.1 Place the base plate (4.1) on the platform of the testing machine (4.3) and place the test piece on the base plate.

If the sample of material to be tested has an unbalanced coating, the side having the thicker coating shall be facing upward.

8.2 Place the load button of the machine onto the test piece so that the recess of the button, as shown in figure 2, is in contact with the test piece and is in a plane normal to that of the test piece. The circumference of the load button shall be at least 12 mm from any edge of the test piece. Apply the force to the button at the rate of approximately 0,08 mm/s until the shear yield point or maximum deflection of the dial pointer is reached, whichever is the lesser. Record the force required to crush the test piece. Repeat the procedure at least twice more on a new area of the test piece at least 12 mm away from other test areas and at least 12 mm from any edge.

8.3 Fabric crushing can readily be detected by stretching the test piece. The fabric will have noticeably less resistance to stretching for the damaged areas when compared with the undamaged areas.

9 Test report

The test report shall include the following particulars :

- a) reference to this international Standard;
- b) identification of test pieces;
- c) conditioning period and temperature;
- d) number of test pieces tested;
- e) force required to crush the coating or the fabric in the test piece, whichever occurs first.

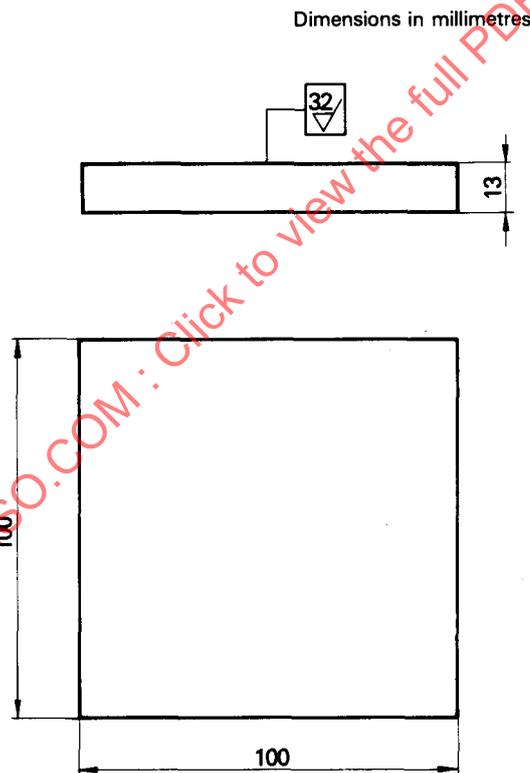


Figure 1 — Base plate

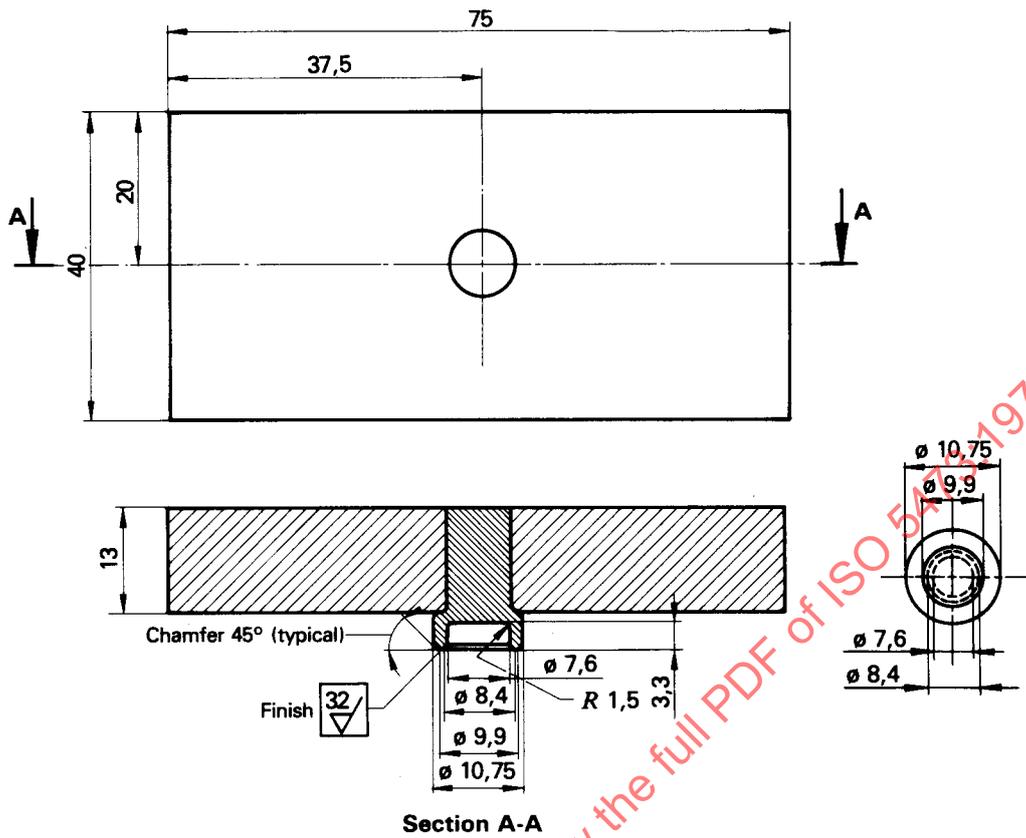


Figure 2 – Load button assembly

NOTES

- 1 All sharp edges to be removed.
- 2 Button to be press fit in plate.

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