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International Standard



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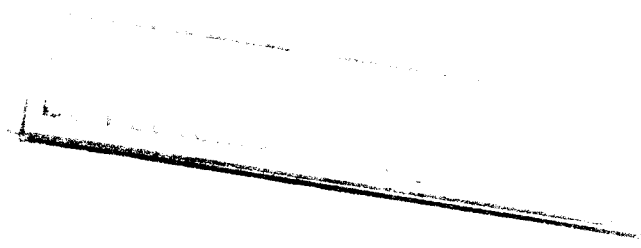
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**Rubber, vulcanized — Determination of tear strength of small test pieces (Delft test pieces)**

*Caoutchouc vulcanisé — Détermination de la résistance au déchirement des petites éprouvettes (éprouvettes de Delft)*

Second edition — 1983-12-01



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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 developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been authorized 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.

International Standard ISO 816 was developed by Technical Committee ISO/TC 45, *Rubber and rubber products*.

This second edition was submitted directly to the ISO Council, in accordance with clause 6.11.2 of part 1 of the Directives for the technical work of ISO. It cancels and replaces the first edition (i.e. ISO 816-1976), which had been approved by the member bodies of the following countries :

Australia	France	Netherlands
Austria	Germany, F.R.	New Zealand
Brazil	Hungary	Poland
Bulgaria	India	Spain
Canada	Israel	Switzerland
Chile	Italy	United Kingdom
Colombia	Japan	USSR
Czechoslovakia	Korea, Rep. of	Yugoslavia

The member bodies of the following countries had expressed disapproval of the document on technical grounds :

Sweden  
USA

# Rubber, vulcanized — Determination of tear strength of small test pieces (Delft test pieces)

## 1 Scope and field of application

This International Standard specifies a method for the determination of the tear strength of small test pieces (Delft test pieces) of vulcanized rubbers.

NOTE — The test does not necessarily give results agreeing with those given by the method described in ISO 34, *Rubber, vulcanized — Determination of tear strength (trouser, angle and crescent test pieces)*.

## 2 References

ISO 471, *Rubber — Standard temperatures, humidities and times for the conditioning and testing of test pieces*.

ISO 1826, *Rubber, vulcanized — Time-interval between vulcanization and testing — Specification*.

ISO 4648, *Rubber, vulcanized — Determination of dimensions of test pieces and products for test purposes*.

ISO 5893, *Rubber and plastics test equipment — Tensile, flexural and compression types (constant rate of traverse) — Description*.<sup>1)</sup>

## 3 Principle

Measurement of the force required to tear across the width of a small test piece containing a slit in the centre. (The slit and the test piece are cut in one operation.)

1) At present at the stage of draft.

2) 1 kPa = 1 kN/m<sup>2</sup>

## 4 Apparatus

**4.1 Tensile testing machine**, complying with the requirements of ISO 5893, capable of measuring force with an accuracy corresponding to grade B, as defined in ISO 5893, and with a rate of traverse of the moving grip of  $500 \pm 50$  mm/min.

The capacity of the test machine shall be such that the force required to cause tearing of the test piece will be not less than 15 % or more than 85 % of that capacity.

NOTE — Inertia (pendulum) type dynamometers are apt to give results which differ because of frictional and inertial effects. An inertialess (for example electronic or optical transducer type) dynamometer gives results which are free from these effects and is therefore to be preferred.

**4.2 Die**, for cutting the test piece.

The construction of the die and of the knife which cuts the slit is shown in figures 3 and 4.

**4.3 Micrometer gauge**, complying with the requirements of ISO 4648 and having a circular foot approximately 6 mm in diameter, which exerts a pressure of 20 kPa.<sup>2)</sup>

**4.4 Travelling microscope**.

## 5 Test piece

### 5.1 Shape and dimensions

The test piece shall be rectangular and shall conform to the shape of the die shown in figure 1.