

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 816

DETERMINATION OF TEAR STRENGTH
OF SMALL TEST PIECES OF VULCANIZED RUBBERS
(DELFT TEST PIECES)

1st EDITION
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BRIEF HISTORY

The ISO Recommendation R 816, *Determination of tear strength of small test pieces of vulcanized rubbers (Delft test pieces)*, was drawn up by Technical Committee ISO/TC 45, *Rubber*, the Secretariat of which is held by the British Standards Institution (BSI).

Work on this question by the Technical Committee led, in 1962, to the adoption of a Draft ISO Recommendation.

In November 1963, this Draft ISO Recommendation (No. 630) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

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

Three Member Bodies opposed the approval of the Draft :

France
Sweden
U.S.A.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in September 1968, to accept it as an ISO RECOMMENDATION.

DETERMINATION OF TEAR STRENGTH OF SMALL TEST PIECES OF VULCANIZED RUBBERS (DELFT TEST PIECES)

1. SCOPE

This ISO Recommendation describes a method for the determination of tear strength of small test pieces of vulcanized rubbers using the Delft test pieces.

2. PRINCIPLE OF METHOD

The test consists of measuring 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 should be cut in one operation. The test does not necessarily give results agreeing with those given by the method using the crescent test piece.*

3. APPARATUS

The test piece should be stretched in a tensile testing machine capable of a substantially constant rate of traverse of the moving grip. This rate should be 500 ± 50 mm/min.

The capacity of the test machine should be such that the force required to cause tearing of the test piece will be not less than 15 % nor 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 inertia-less (for example, electronic or optical transducer type) dynamometer gives results which are free from these effects and is therefore to be preferred.

4. TEST PIECE

4.1 Dimensions of standard test piece

The test piece should be rectangular and should conform to the shape of the die shown in Figure 1 below.

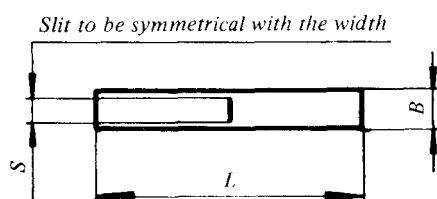


FIG. 1 – Die

Dimensions of test piece

Dimensions	mm
<i>L</i> Length	60
<i>B</i> Width	9.0 ± 0.1
<i>S</i> Slit	5.0 ± 0.1

* See ISO Recommendation R 34, *Determination of tear strength of vulcanized natural and synthetic rubbers (crescent test piece)*.