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(JRMA/JSA)

**Rubber, vulcanized or
thermoplastic—Determination of
tear strength—Part 2: Small (Delft)
test pieces**

ICS 83.060

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Mita MT Building, 3-13-12, Mita, Minato-ku, Tokyo, 108-0073 JAPAN

In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

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Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee according to the proposal for establishment of Japanese Industrial Standard submitted by The Japan Rubber Manufacturers Association (JRMA)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law. Consequently **JIS K 6252**:2007 has been withdrawn and partially replaced with this Standard.

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Attention is drawn to the possibility that some parts of this Standard may conflict with patent rights, applications for a patent after opening to the public or utility model rights. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights, applications for a patent after opening to the public or utility model rights.

JIS K 6252 series consists of the following 2 parts under the general title “*Rubber, vulcanized or thermoplastic—Determination of tear strength*”:

Part 1: Trouser, angle and crescent test pieces

Part 2: Small (Delft) test pieces

Rubber, vulcanized or thermoplastic— Determination of tear strength— Part 2: Small (Delft) test pieces

Introduction

This Japanese Industrial Standard has been prepared based on the third edition of **ISO 34-2** published in 2011 with some modifications of the technical contents.

The portions given sidelines or dotted underlines are the matters in which the contents of the corresponding International Standard have been modified. A list of modifications with the explanations is given in Annex JB.

1 Scope

This Standard specifies test methods for the determination of the tear strength of small test pieces (Delft test pieces) of vulcanized or thermoplastic rubber.

NOTE 1 This method is used when the amount of material available is limited, and might be particularly suitable for testing small finished products.

NOTE 2 The International Standard corresponding to this Standard and the symbol of degree of correspondence are as follows.

ISO 34-2:2011 *Rubber, vulcanized or thermoplastic—Determination of tear strength—Part 2: Small (Delft) test pieces* (MOD)

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standard and **JIS** are IDT (identical), MOD (modified), and NEQ (not equivalent) according to **ISO/IEC Guide 21-1**.

WARNING Persons using this Standard should be familiar with normal laboratory practice. This Standard does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user of this Standard to establish appropriate safety and health practices.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. For standards with the year indication, only the editions of the indicated year shall be applied and the revisions (including amendments) made thereafter shall not be applied. For those without the indication of the year, the most recent edition (including amendments) shall be applied.

JIS K 6200 *Rubber—Vocabulary*

JIS K 6250 *Rubber—General procedures for preparing and conditioning test pieces for physical test methods*

NOTE : Corresponding international Standard: ISO 23529 *Rubber—General procedures for preparing and conditioning test pieces for physical test methods* (MOD)

JIS K 6272 *Rubber—Tensile, flexural and compression test equipment (constant rate of traverse)—Specification*

NOTE : Corresponding international Standard: ISO 5893 *Rubber and plastics test equipment—Tensile, flexural and compression types (constant rate of traverse)—Specification* (MOD)

JIS Z 8401 *Guide to the rounding of numbers*

ISO 18899:2004 *Rubber—Guide to the calibration of test equipment*

2A Terms and definitions

For the purpose of this Standard, the terms and definitions given in **JIS K 6200**, and the following apply.

2A.1 delft tear strength

the maximum value of force required for tearing by starting from the nick of delft test piece expressed per area (8 mm²) of tear part of the test piece

3 Principle

The force required to tear across the width of a small test piece containing a cut (a penetrating slit) in the centre (see Figure 3) is measured.

NOTE : This method does not necessarily give results agreeing with those given by the method described in **JIS K 6252-1**, which uses trouser, angle and crescent test pieces.

4 Apparatus

4.1 Tensile-testing machine With a rate of traverse of the moving grip of 500 mm/min $\pm$ 50 mm/min, and capable of measuring force with an accuracy corresponding to Class 1 or better as defined in clause 4 of **JIS K 6272**.

4.2 Die The shapes of the die for cutting test piece are shown in Figures 1 and 2.

4.3 Micrometer gauge Having a circular foot approximately 6 mm in diameter specified in 10.1 a) of **JIS K 6250** which exerts a pressure of 22 kPa $\pm$ 5 kPa.

4.4 Travelling microscope Giving at least $\times 10$ magnification, fitted with a graticule graduated at 0.01 mm intervals.

5 Calibration of test apparatus

The test apparatus shall be calibrated in accordance with Annex B.

6 Test pieces

6.1 Dimensions of test piece and cut

Samples shall be moulded or prepared from products by cutting or buffing as a sheet of uniform thickness, and the sheet shall have a thickness of 2.0 mm $\pm$ 0.2 mm.