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(JRMA/JSA)

**Rubber, vulcanized or
thermoplastic—Determination of
tear strength—Part 1: Trouser,
angle and crescent test pieces**

ICS 83.060

Reference number : JIS K 6252-1 : 2015 (E)

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In the event of any doubts arising as to the contents,
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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 Consequently **JIS K 6252**:2007 has been withdrawn and partially replaced with this Standard.

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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 1: Trouser, angle and crescent test pieces

Introduction

This Japanese Industrial Standard has been prepared based on the third edition of **ISO 34-1** published in 2010 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 JA.

1 Scope

This Standard specifies test methods for the determination of the tear strength of vulcanized or thermoplastic rubber.

This Standard applies to the following three test methods.

Method A Using a trouser test piece

Method B Using an angle test piece, with or without a nick of specified depth

Method C Using a crescent test piece with a nick

NOTE 1 Test method for the determination of the tear strength of Delft test pieces is specified in **JIS K 6252-2** (see Bibliography [1]).

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

ISO 34-1:2010 *Rubber, vulcanized or thermoplastic—Determination of tear strength—Part 1: Trouser, angle and crescent 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 K 6274 *Rubber and plastics—Analysis of multi-peak traces obtained in determinations of tear strength and adhesion strength*

NOTE : Corresponding international Standard: ISO 6133 *Rubber and plastics—Analysis of multi-peak traces obtained in determinations of tear strength and adhesion strength* (IDT)

JIS Z 8401 Guide to the rounding of numbers

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

3 Terms and definitions

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

3.1 trouser tear strength

the median of force required for tearing by starting from the nick of trouser-shaped test piece, which is obtained according to **JIS K 6274**, divided by the thickness of the test piece

3.2 unnicked angle tear strength

the maximum value of force required for tearing an angle-shaped test piece divided by the thickness of the test piece

3.3 nicked angle tear strength, crescent tear strength

the maximum value of force required for tearing by starting from the nick of angle- or crescent-shaped test piece divided by the thickness of the test piece

4 Principle

4.1 General

Tear strength is the force required for tear to progress. The tearing force is applied by means of a tensile testing machine, operated without interruption at a constant rate until the test piece breaks. Depending upon the method employed, the maximum or median value is used to determine the tear strength.

No correlation between data obtained by the alternative test pieces is implied.