JIS

JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS K 7126-1 : 2006

(JPIF/JSA)

Plastics—Film and sheeting—Determination of gas-transmission rate—Part 1 : Differential-pressure method

ICS 83.140.10

Reference number : **JIS K 7126-1 : 2006 (E)**

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 of establishing a Japanese Industrial Standard from The Japan Plastics Industry Federation (JPIF)/Japanese Standards Association (JSA), with a draft of Industrial Standard based on the provision of Article 12 Clause 1 of the Industrial Standardization Law.

This Standard has been made based on **ISO 15105-1** : 2002 *Plastics—Film and sheeting—Determination of gas-transmission rate—Part 1 : Differential-pressure method* for the purposes of making it easier to compare this Standard with International Standard; to prepare Japanese Industrial Standard conforming with International Standard; and to propose a draft of an International Standard which is based on Japanese Industrial Standard.

Attention is drawn to the possibility that some parts of this Standard may conflict with a patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have technical properties. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying the patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have the said technical properties.

JIS K 7126 consists of the following 2 parts under the general title "*Plastics—Film and sheeting—Determination of gas transmission rate*":

Part 1 : Differential pressure method

Part 2 : Equal-pressure method

Date of Establishment: 2006-08-20

Date of Public Notice in Official Gazette: 2006-08-21

Investigated by: Japanese Industrial Standards Committee

Standards Board

Technical Committee on Chemical Products

JIS K 7126-1 : 2006, First English edition published in 2007-05

Translated and published by: Japanese Standards Association
4-1-24, Akasaka, Minato-ku, Tokyo, 107-8440 JAPAN

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

Printed in Japan

NH/AT

Contents

Page

Introduction 1

1 Scope 1

2 Normative reference 1

3 Terms and definitions 1

4 Principle 2

5 Test specimens 2

6 Test method, apparatus, procedure and calculation 2

7 Test results 2

8 Precision 2

9 Test report 3

Annex 1 (normative) Determination of gas-transmission rate by means of pressure sensor method 4

Annex 2 (normative) Determination of gas-transmission rate by means of gas chromatography 8

Annex 3 (informative) Comparison table between JIS and corresponding International Standard 12

Plastics—Film and sheeting—Determination of gas-transmission rate—Part 1 : Differential-pressure method

Introduction This Japanese Industrial Standard has been prepared based on the first edition of **ISO 15105-1** *Plastics—Film and sheeting—Determination of gas-transmission rate—Part 1 : Differential-pressure method* published in 2002 with some modifications of the technical contents.

The portions with continuous sidelines or dotted underlines are the matters in which the contents of the original International Standard have been modified. A list of modifications with explanations is given in Annex 3 (informative).

1 Scope This part of **JIS K 7126** specifies a method for determining the gas-transmission rate of any plastic material in the form of film, sheeting, laminate, co-extruded material or flexible plastic-coated material under a differential pressure.

NOTE : The International Standard corresponding to this part of **JIS K 7126** is as follows.

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

ISO 15105-1 : 2002 *Plastics—Film and sheeting—Determination of gas-transmission rate—Part 1 : Differential-pressure method* (MOD)

2 Normative reference The following standard contains provisions which, through reference in this text, constitute provisions of this part of **JIS K 7126**. The most recent edition of the standard (including amendments) indicated below shall be applied.

JIS K 7130 *Plastics—Film and sheeting—Determination of thickness*

NOTE : **ISO 4593** : 1993 *Plastics—Film and sheeting—Determination of thickness by mechanical scanning* is equivalent to the said standard.

3 Terms and definitions For the purposes of this part of **JIS K 7126**, the following terms and definitions apply.

3.1 ***GTR*** **(gas-transmission rate)** volume of gas passing through a plastic material, per unit area and unit time, under unit partial-pressure difference between the two sides of the material

Information : When the gas used is oxygen, the value obtained is the oxygen transmission rate (O_2GTR).