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(JRMA/JSA)

Testing methods for rubber and plastics hoses — Part 9 : Bending properties of hoses and tubing

ICS 23.040.20;23.040.70

Reference number : JIS K 6330-9 : 2003 (E)

Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision 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 applicable to the case of revision by the provision of Article 14.

Consequently **JIS K 6330-9** : 1998 is replaced with this Standard.

This Standard has been made based on **ISO/DIS 1746** : 2001 *Rubber or plastics hoses and tubing—Bending tests* for the purpose 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 6330 consists of the following 10 parts under the general title "*Testing methods for rubber and plastics hoses*":

K6330-1 *Part 1 : Methods of measurement of dimensions for hoses and hose assemblies*
K6330-2 *Part 2 : Hydrostatic testing*
K6330-3 *Part 3 : Determination of suction resistance*
K6330-4 *Part 4 : Sub-ambient temperature flexibility tests*
K6330-5 *Part 5 : Determination of electrical resistance*
K6330-6 *Part 6 : Determination of adhesion between components*
K6330-7 *Part 7 : Assessment of ozone resistance under static conditions*
K6330-8 *Part 8 : Hydraulic-pressure impulse test without flexing*
K6330-9 *Part 9 : Bending properties of hoses and tubing*
K6330-10 *Part 10 : Determination of transmission of liquids through hose walls*

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

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Testing methods for rubber and plastics hoses— Part 9 : Bending properties of hoses and tubing

Introduction This Japanese Industrial Standard has been prepared based on **ISO/DIS 1746** *Rubber or plastics hoses and tubing—Bending tests* published in 2001 without modifying the technical contents.

Portions underlined with dots are the matters modified from the original International Standard.

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 to establish appropriate safety and health practices.

1 Scope This part of **JIS K 6330** specifies three methods for the determination of the behaviour of rubber or plastic hoses or tubing when bent to a specified radius.

Method A is suitable for hoses and tubing of nominal bore up to about 80; the size of the apparatus for testing hoses and tubing of larger bore sizes becomes excessive. The method also provides a means of measuring the force required to reach a specified bend radius, and the test may be carried out at a specified internal pressure.

In Method B, the bending characteristics, including the force required for bending, may be determined over a range of temperatures from −60 ℃ to +200 ℃. The nature of the apparatus, however, limits it applicability to hoses and tubing of small nominal bore, i.e. up to about 12.5.

Method C is suitable for hoses of all internal diameters but is specially intended for hoses with nominal bore above 80.

Remarks : The International Standard corresponding to this Standard is as follows.

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.**

ISO/DIS 1746:2001, *Rubber or plastics hoses and tubing—Bending tests* (IDT)

2 Normative references The following standards contain provisions which, through reference in this Standard, constitute provisions of this Standard. If the indication of the year of publication is given to these referred standards, only the edition of the in-