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**Testing methods for rubber and
plastics hoses — Part 5: Determina-
tion of electrical resistance**

ICS 83.140.40

Descriptors : synthetic rubber, plastics, flexible pipes, hose connectors, testing,
electrical testing

Reference number : JIS K 6330-5: 1998 (E)

K 6330-5:1998 (ISO 8031:1993)

Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of International Trade and Industry through deliberations at Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law:

In order to conform with the corresponding International Standard, this part has been established based on **ISO 8031:1993**.

Attention shall be drawn to the possibility that a part of this Standard may conflict with a patent right, application for a patent right 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 right after opened, utility model right or application for registration of utility model after opening to the public which have the technical properties of this kind.

JIS K 6330 *Testing methods for rubber and plastics hoses* includes following 10 parts:

Part 1: *Methods of measurement of dimensions*

Part 2: *Hydrostatic testing*

Part 3: *Determination of suction resistance*

Part 4: *Sub-ambient temperature flexibility tests*

Part 5: *Determination of electrical resistance*

Part 6: *Determination of adhesion between components*

Part 7: *Assessment of ozone resistance under static conditions*

Part 8: *Hydraulic-pressure impulse test without flexing*

Part 9: *Bending tests*

Part 10: *Determination of transmission of liquids through hose walls*

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Testing methods for rubber and plastics hoses — Part 5: Determination of electrical resistance

Introduction This Japanese Industrial Standard has been prepared based on the second edition of ISO 8031, *Rubber and plastics hoses and hose assemblies — Determination of electrical resistance*, published in 1993, without any modification in technical content.

1 Scope This Japanese Industrial Standard specifies the methods for electrical tests on rubber and plastics hoses and hose assemblies (hereafter, referred to as “hose”) to determine the resistance of conductive, antistatic and non-conductive hoses, the electrical continuity between joint couplings, and the electrical discontinuity.

Remarks: The International Standard corresponding to this Standard shall be shown as follows:

ISO 8031 : 1993 *Rubber and plastics hoses and hose assemblies — Determination of electrical resistance*

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 coming into effect (or the year of publication) is given to these referred standards, only the edition of indicated year constitutes the provision of this Standard but the revision and amendment made thereafter are not applied. The normative references without the indication of the year of coming into effect (or the year of publication) apply limiting only to the most recent edition (including the amendment).

ISO 291 : 1977 *Plastics — Standard atmospheres for conditioning and testing*

ISO 471 : 1983 *Rubber — Standard temperatures, humidities and times for the conditioning and testing of test pieces*

ISO 2878 : 1987 *Rubber, vulcanized — Antistatic and conductive products — Determination of electrical resistance*

3 Measurement of electrical resistance of conductive, antistatic and non-conductive hoses The rubber hoses may have a conducting inside layer only or a conducting outside layer, or may be manufactured from conducting rubber compounds throughout. The testing method specifies the testing methods for these three types of hoses.

3.1 Testing apparatus For testing apparatus, the following apparatus specified in ISO 2878 shall be basically used.

3.1.1 Testing instruments

3.1.1.1 For the measurements of the resistance of conductive, antistatic and non-conductive hoses, the test shall be carried out with an instrument for measuring insulation resistance, having a nominal open-circuit voltage of 500 V d.c., or with any other instrument to obtain the equivalent results. The instrument shall be sufficiently accurate to measure the resistance to within $\pm 10\%$. During the test, the power of not more than 3W shall be