



JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS K 6348 : 2017

(JRMA/JSA)

Rubber tubes for gas

ICS 83.140.40

Reference number : JIS K 6348 : 2017 (E)

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K 6348 : 2017

Date of Establishment: 1960-07-01

Date of Revision: 2017-11-20

Date of Public Notice in Official Gazette: 2017-11-20

Investigated by: Japanese Industrial Standards Committee

Standards Board for ISO area

Technical Committee on Consumer Life Products

JIS K 6348 : 2017, First English edition published in 2018-01

Translated and published by: Japanese Standards Association
Mita MT Building, 3-13-12, Mita, Minato-ku, Tokyo, 108-0073 JAPAN

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Printed in Japan

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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 6348:2011** is replaced with this Standard.

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Rubber tubes for gas

1 Scope

This Japanese Industrial Standard specifies the rubber tubes for gas (hereafter referred to as rubber tubes) which connect between the supply-gas valves for town gas ¹⁾ with pressure of 3.3 kPa or less and burning appliances, and between the regulator for liquefied petroleum gas ²⁾ or supply-gas valves and burning appliances.

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.

Notes ¹⁾ Town gas means any gas falling under the gas group which is specified in Ministerial Ordinance on Technical Standards for Gas Equipment (Ministry of International Trade and Industry Ordinance No. 27, 1971) based on Gas Business Act (Act No. 51, 1954).

²⁾ Liquefied petroleum gas is the gas defined in the standard for liquefied petroleum gas provided in the Act on the Securing of Safety and the Optimization of Transaction of Liquefied Petroleum Gas (Act No. 149, 1967) and its Enforcement Regulation (Cabinet Ordinance No. 14, 1968).

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS B 7721 *Tension/compression testing machines — Verification and calibration of the force-measuring system*

JIS K 2240 *Liquefied petroleum gases*

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

JIS K 6251 *Rubber, vulcanized or thermoplastic — Determination of tensile stress-strain properties*

JIS K 6253-3 *Rubber, vulcanized or thermoplastic — Determination of hardness — Part 3 : Durometer method*

JIS K 6257 *Rubber, vulcanized or thermoplastic — Determination of heat ageing properties*

JIS K 6258 *Rubber, vulcanized or thermoplastic — Determination of the effect of liquids*

JIS K 6259-1 *Rubber, vulcanized or thermoplastic — Determination of ozone resistance — Part 1 : Static and dynamic strain testing*

JIS K 6261-3 *Rubber, vulcanized or thermoplastic — Determination of low-temperature properties — Part 3 : Low temperature stiffening (Gehman test)*

JIS K 6273 *Rubber, vulcanized or thermoplastic — Determination of tension set, elongation and creep*

JIS K 6330-1 *Testing methods for rubber and plastics hoses — Part 1 : Methods of measurement of dimensions for hoses and hose assemblies*

JIS K 6330-2 *Rubber and plastics hoses and hose assemblies — Part 2 : Hydrostatic testing*

JIS Z 8401 *Guide to the rounding of numbers*

3 Quality

3.1 Performance

The performance of the rubber tube shall meet the requirements in Table 1 when tested according to 7.3 to 7.19.

Table 1 Performance of rubber tube

Performance item		Requirement	Test method	Main testing condition
Inside rubber layer	<i>n</i> -Pentane resistance	Mass change 35 % max.	Gas resistance test (7.3)	<i>n</i> -Pentane gas 35 °C ± 2 °C, 48 h
	Tensile strength	Tensile strength 12 MPa min.	Tensile test (7.4)	Test method specified in JIS K 6251
Inside rubber layer and intermediate layer	Elongation at break	Elongation at break 400 % min.		
	Hardness	A55 or over up to and incl. A70	Hardness test (7.5)	JIS K 6253-3 Type A durometer
	Tension set	Tension set 15 % max.	Permanent set test (7.6)	Clause 5 of JIS K 6273, 23 °C ± 2 °C, 24 h, (200 ± 10) % elongation
	Aging resistance	Tensile strength change –20 % max.	Aging resistance test (7.7)	Accelerated aging test method A, AtA-1, specified in 3.3 of JIS K 6257, 70 °C ± 1 °C, 96 h
		Elongation change at break –20 % max.		