



JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS G 0576 : 2001

(JSSA/JSA)

Stress corrosion cracking test for stainless steels

ICS 77.040.30; 77.060

Descriptors : stainless steels, corrosion tests, stress corrosion

Reference number : JIS G 0576 : 2001 (E)



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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 Stainless Steel Association (JSSA)/the 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 G 0576 : 1975** is replaced with this Standard.

Date of Establishment: 1975-11-01

Date of Revision: 2001-04-20

Date of Public Notice in Official Gazette: 2001-04-20

Investigated by: Japanese Industrial Standards Committee
Divisional Council on Iron and Steel

JIS G 0576:2001, First English edition published in 2001-11

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,
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Printed in Japan

Stress corrosion cracking test for stainless steels

1 Scope This Japanese Industrial Standard specifies method A: 42 % magnesium chloride stress corrosion cracking test, and method B: 30 % calcium chloride stress corrosion cracking test on the stress corrosion cracking tests for stainless steels.

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

JIS K 8123 *Calcium chloride*

JIS K 8159 *Magnesium chloride hexahydrate*

JIS K 8180 *Hydrochloric acid*

JIS K 8575 *Calcium hydroxide*

JIS R 6252 *Abrasive papers*

JIS R 6253 *Waterproof abrasive papers*

3 Test method Method A: 42 % magnesium chloride stress corrosion cracking test

3.1 Test solution The test solution shall be as follows.

The boiling point is adjusted to $143\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$ with the test solution of magnesium chloride hexahydrate specified in **JIS K 8159** and distilled water or deionized water. The concentration of the magnesium chloride solution is 42 %.

Further, the pH of the 20 % aqueous solution of magnesium chloride to be used shall be within the range of 3 to 7 at ordinary temperature.

3.2 Test

3.2.1 Uniaxial tensile test The uniaxial tensile test shall be as follows.

- a) For the tensile test machine, the uniaxial tensile test machine of $\pm 1\%$ in load precision is used. For the load weight, that conforming to the tolerance determined by the Measurement Law is used.
- b) For the test container, that which has a necessary and sufficient capacity for carrying out the test, a cooling capacity sufficient for preventing the concentration of the test solution and is equipped with a counterflow condenser is used.
- c) For the heater, that capable of keeping the solution during the test in a quiet boiling state is used.
- d) **Test pieces** The test pieces shall be as follows.
 - 1) The test piece shall be of a plate shape or a rod shape, and the standard dimensions of the parallel part of the test piece shall conform to the following.