



JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS Z 2329 : 2019

(JSNDI/JSA)

Non-destructive testing — Methods for
bubble leak testing

ICS 19.100

Reference number : JIS Z 2329 : 2019 (E)

PROTECTED BY COPYRIGHT

 **Documents**
Document Sharing Hub

8 5

Date of Establishment: 1991-03-01

Date of Revision: 2019-09-20

Date of Public Notice in Official Gazette: 2019-09-20

Investigated by: Japanese Industrial Standards Committee

Standards Board for ISO area

JIS Z 2329 : 2019, First English edition published in 2020-11

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

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

© JSA 2020

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

Printed in Japan

HT/HN

PROTECTED BY COPYRIGHT

 **Documents**
Document Sharing Hub

Contents

	Page
Introduction	1
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Safety precautions	1
5 Testing personnel	2
6 Types of testing method	2
6.1 Pressurization method	2
6.2 Vacuum method	2
7 Test equipment and implements	2
7.1 Pressure gauge	2
7.2 Pressurizing device	2
7.3 Vacuum device	2
7.4 Bubble solution	2
7.5 Gas	2
8 Methods for bubble leak testing	3
8.1 Pretreatment	3
8.2 Test temperature	3
8.3 Test pressure	3
8.4 Pressurization and depressurization	3
8.5 Pressure retention time	3
8.6 Application of bubble solution	3
8.7 Observation	3
8.8 Test procedure	4
9 Post-treatment	5
10 Retests	5
11 Acceptance criteria	5
12 Record	5
Annex A (normative) Specification of bubble solution	6

Foreword

This Japanese Industrial Standard has been 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 Japanese Society for Non-Destructive Inspection (JSNDI)/Japanese Standards Association (JSA) with a draft being attached, based on the provision of Article 12, paragraph (1) of the Industrial Standardization Act applied mutatis mutandis pursuant to the provision of Article 16 of the said Act. This edition replaces the previous edition (**JIS Z 2329**: 2002), which has been technically revised.

This **JIS** document is protected by the Copyright Act.

Attention is drawn to the possibility that some parts of this Standard may conflict with patent rights, published patent application or utility model rights. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights, published patent application or utility model rights.

NOTE Based on Article 9 of the Supplementary Provisions to the Unfair Competition Prevention Act etc., any submission of proposal, or employment of procedures such as deliberation by the Japanese Industrial Standards Committee under the previous Industrial Standardization Act shall be deemed to have been conducted pursuant to the provision of Article 12, paragraph (1) of the revised Industrial Standardization Act.

Non-destructive testing — Methods for bubble leak testing

Introduction

This Japanese Industrial Standard was established in 1991, and has gone through two revisions including this one. The last revision was made in 2002, and the revision at this time is to respond to improvement in reliability/certainty of bubbling phenomenon and safety ensuring of workers.

No corresponding International Standard has been established at this point.

1 Scope

This Standard specifies the bubble leak testing methods to detect leakage positions of test object by pressurizing or vacuum one side of test surfaces and observing bubbles in a bubble solution applied to the test surface, which are formed by the differential pressure between the test surface and the opposite surface of test object.

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 G 3101 *Rolled steels for general structure*

JIS H 3100 *Copper and copper alloy sheets, plates and strips*

JIS H 4000 *Aluminium and aluminium alloy sheets, strips and plates*

JIS R 6252 *Abrasive papers*

JIS Z 2300 *Terms and definitions of nondestructive testing*

JIS Z 2305 *Non-destructive testing — Qualification and certification of NDT personnel*

3 Terms and definitions

For the purpose of this Standard, the terms and definitions given in **JIS Z 2300** apply.

4 Safety precautions

Avoid prolonged contact of a bubble solution with skin or mucous membranes. Pay attention to drop, overturn, etc. of test object because the surface to which a bubble solution is applied is slippery. Use all devices and bubble solutions taking necessary safety measures based on the information such as an instruction manuals and safety data sheet (SDS) provided by the manufacturer. When pressurizing or depressurizing the test object, pay sufficient attention to deformation, breakage, rupture, etc. of test