

# JIS

JAPANESE  
INDUSTRIAL  
STANDARD

Translated and Published by  
Japanese Standards Association

---

---

JIS B 2401-4 : 2012

(JFPA/JSA)

**O-rings — Part 4: Anti-extrusion rings  
(back-up rings)**

B 2401-4 : 2012

Date of Establishment: 2012-03-21

Date of Public Notice in Official Gazette: 2012-03-21

Investigated by: Japanese Industrial Standards Committee

Standards Board

Technical Committee on Machine Elements

---

JIS B 2401-4 : 2012, First English edition published in 2012-11

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,  
the original JIS is to be the final authority.

© JSA 2012

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

KA/HN

PROTECTED BY COPYRIGHT

## Contents

	Page
Introduction .....	1
1 Scope .....	1
2 Normative references .....	1
3 Terms and definitions .....	2
4 Symbols .....	2
5 General .....	2
6 Types .....	2
6.1 General types .....	2
6.2 Spiral .....	3
6.3 Bias-cut .....	3
6.4 Endless .....	3
7 Positioning of back-up rings in housings .....	3
8 Shapes and dimensions .....	4
9 Appearance .....	4
10 Material .....	4
11 Designation codes of products .....	5
11.1 General .....	5
11.2 Back-up rings used for O-rings for dynamic applications (P) and O-rings for static applications (G) .....	5
11.3 Back-up rings used for ISO O-rings for general industrial applications (F) and ISO O-rings for precision instrument applications (S) .....	5
12 Inspection .....	6
13 Marking .....	7
14 Identification statement (reference to this Standard) .....	7
Annex JA (normative) Shapes and dimensions of back-up rings used for ISO O-rings for general industrial applications (F) and ISO O-rings for precision instrument applications (S) .....	13
Annex JB (informative) Comparison table between JIS and the correspond- ing International Standard .....	17

## Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee according to the proposal for establishment of Japanese Industrial Standard submitted by Japan Fluid Power Association (JFPA) /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 B 2407:1995 has been withdrawn and replaced with this Standard.

This JIS document is protected by the Copyright Law.

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 or utility model right. 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 or the utility model right.

JIS B 2401 series consists of the following 4 parts under the general title “*O-rings*”:

*Part 1: O-rings*

*Part 2: Housing dimensions and sizes*

*Part 3: Quality acceptance criteria*

*Part 4: Anti-extrusion rings (back-up rings)*

# O-rings — Part 4 : Anti-extrusion rings (back-up rings)

## Introduction

This Japanese Industrial Standard has been prepared based on the first edition of ISO 3601-4 published in 2008 modifying some of the technical contents so as to be applicable to back-up rings that have been conventionally in use in Japan.

The portions given continuous sidelines or dotted underlines are the matters in which the contents of the original International Standard have been modified. A list of modifications with the explanations is given in Annex JB. A part of the contents of the corresponding International Standard is moved to Annex JA.

## 1 Scope

This Standard specifies the back-up rings that are intended for preventing extrusion of O-rings specified in JIS B 2401-1.

NOTE : The International Standard corresponding to this Standard and the symbol of degree of correspondence are as follows.

ISO 3601-4 : 2008 *Fluid power systems — O-rings — Part 4 : Anti-extrusion rings (back-up rings)* (MOD)

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 21-1.

## 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 0142 *Fluid power systems and components — Vocabulary*

NOTE : Corresponding International Standard : ISO 5598 *Fluid power systems and components — Vocabulary* (MOD)

JIS B 2401-1 *O-rings — Part 1 : O-rings*

NOTE : Corresponding International Standard : ISO 3601-1 *Fluid power systems — O-rings — Part 1 : Inside diameters, cross-sections, tolerances and designation codes* (MOD)

JIS B 2401-2 *O-rings — Part 2 : Housing dimensions and sizes*

NOTE : Corresponding International Standard : ISO 3601-2 *Fluid power systems — O-rings — Part 2 : Housing dimensions for general applications* (MOD)

JIS K 6891 *Testing methods for polytetrafluoroethylene molding powder*