

JIS

JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS B 0641-1 : 2020

(JSA)

**Geometrical product specifications
(GPS)—Inspection by measurement
of workpieces and measuring
equipment—Part 1: Decision rules
for proving conformance or
nonconformance with specifications**

ICS 17.040.01

Reference number : JIS B 0641-1 : 2020 (E)

B 0641-1 : 2020

Date of Establishment: 2001-03-20

Date of Revision: 2020-04-20

Date of Public Notice in Official Gazette: 2020-04-20

Investigated by: Japanese Industrial Standards Committee
Standards Board for ISO area

JIS B 0641-1:2020, First English edition published in 2020-10

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

AT

PROTECTED BY COPYRIGHT

Contents

	Page
Introduction	1
1 Scope	2
2 Normative references	2
3 Terms and definitions	3
4 Default decision rules	13
4.1 General	13
4.2 Default conformance probability limit	17
4.3 Default nonconformance probability limit	17
5 Verifying conformity and nonconformity with specifications	17
5.1 General	17
5.2 Rule for verifying conformity with specifications	18
5.3 Rule for verifying nonconformity with specifications	19
5.4 Uncertainty zone	20
6 Application in a supplier/customer relationship	21
6.1 General	21
6.2 Supplier verifying conformity	21
6.3 Customer verifying nonconformity	22
Annex A (informative) Relation between current edition and previous edition	23
Annex B (informative) Relation to the GPS matrix model	26
Annex JA (informative) Example of economically optimal measuring equipment, and decision rules for acceptance and rejection of workpieces	28
Annex JB (informative) Comparison table between JIS and corresponding International Standard	38

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 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 B 0641-1:2001**), 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.

JIS B 0641 series consists of the following part under the general title *Geometrical product specifications (GPS)—Inspection by measurement of workpieces and measuring equipment*:

Part 1: Decision rules for proving conformance or nonconformance with specifications

Geometrical product specifications (GPS)—Inspection by measurement of workpieces and measuring equipment— Part 1: Decision rules for proving conformance or nonconformance with specifications

Introduction

This Japanese Industrial Standard has been prepared based on **ISO 14253-1:2017**, Edition 3, by incorporating the parts corresponding to this Standard without any modifications of the technical contents, and also adding terms and definitions specified in **ISO/TR 14253-6**.

As a reference, Annex A shows the relation between the current edition and the previous edition (**JIS B 0641-1:2001**), and Annex JA shows the decision rules specified in **ISO/TR 14253-6**.

The vertical lines on both sides and dotted underlines indicate changes from the corresponding International Standard. A list of modifications with the explanations is given in Annex JB.

This Standard is a geometrical product specifications (GPS) standard and is to be regarded as a general GPS standard (see **ISO 14638**).

This Standard influences the chain link D of all chains of general GPS standards.

The ISO/GPS matrix model given in **ISO 14638** gives an overview of the ISO/GPS system of which this Standard is a part.

The fundamental rules of ISO/GPS given in **JIS B 0024** apply to this Standard and the default decision rules given in this Standard apply in ISO/GPS, unless otherwise indicated.

For more detailed information on the relation of this Standard to other standards and the GPS matrix model, see Annex B.

The estimated measurement uncertainty is to be taken into account when verifying conformity or nonconformity with specifications. The problem arises when a measured value falls close to the upper or lower specification limit. In this case, verification of conformity or nonconformity with specifications is not possible: the measurement uncertainty induces a probability that a true value of the characteristic is out of specification even if the measured value falls inside the specification zone, or is in specification even if the measured value falls outside. Therefore, suppliers and customers should agree in advance in a method to resolve any issues that may arise.

This Standard explains how to define default acceptance and rejection zones (i.e. decision rules) for verifying conformity or nonconformity with specifications.

It is not the intention of this Standard to consider any prior knowledge of the possible values of the measurand(s), e.g. the variability of the measured objects, which may