



JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS B 7545 : 2015

(JMA/JSA)

Test mandrels

B 7545 : 2015

Date of Establishment: 1982-03-01

Date of Revision: 2015-06-22

Date of Public Notice in Official Gazette: 2015-06-22

Investigated by: Japanese Industrial Standards Committee

Standards Board for ISO area

Technical Committee on Basic Engineering

JIS B 7545 : 2015, First English edition published in 2016-06

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 2016

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

IH/HN

PROTECTED BY COPYRIGHT

Contents

	Page
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Types	2
5 Standard reference temperature	3
6 Shape and dimensions	3
6.1 Test mandrel with taper shank	3
6.2 Test mandrel with centre holes	7
7 Geometrical tolerance	8
7.1 Test mandrel with taper shank	8
7.2 Test mandrel with centre holes	9
8 Hardness	10
9 Surface roughness	10
10 Measuring methods	10
11 Inspection	12
12 Designation of product	12
12.1 Test mandrel with taper shank	12
12.2 Test mandrel with centre holes	12
13 Marking	12
Annex A (informative) Deflection of test mandrel	14
Annex B (informative) Precautions when using test mandrels	18

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 Japan Precision Measuring Instruments Manufacturers Association (JMA)/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 B 7545:1982** is 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 patent rights, applications for a patent after opening to the public or utility model rights. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights, applications for a patent after opening to the public or utility model rights.

Test mandrels

1 Scope

This Japanese Industrial Standard specifies the cylindrical test mandrels with taper shank and those with centre holes used mainly for the geometric accuracy tests of machine tools and measuring instruments.

NOTE 1 The term “test mandrels” is used when the test mandrels with taper shank and the test mandrels with centre holes are collectively called.

NOTE 2 When using the test mandrel horizontally, its deflection is taken into consideration (see Annex A).

NOTE 3 Precautions when using test mandrels are shown in Annex B as a reference.

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 0106 *Machine tools — Parts and working methods — Vocabulary*
- JIS B 0154 *Vocabulary of cones*
- JIS B 0182 *Machine tools — Test codes — Vocabulary*
- JIS B 0651 *Geometrical Product Specifications (GPS) — Surface texture : Profile method — Nominal characteristics of contact (stylus) instruments*
- JIS B 0659-1 *Geometrical Product Specifications (GPS) — Surface texture : Profile method; Measurement standards — Part 1 : Material measures*
- JIS B 0680 *Geometrical Product Specifications (GPS) — Standard reference temperature for geometrical product specification and verification*
- JIS B 1011 *Centre holes*
- JIS B 3301 *Taper gauges — Morse tapers and metric tapers*
- JIS B 4003 *Machine tools — Self-holding tapers for tool shanks*
- JIS B 6064-1 *Hollow taper interface with flange contact surface — Part 1 : Shanks — Dimensions*
- JIS B 6101 *7/24 tapers for tool shanks for manual changing*
- JIS B 6339-1 *Tool shanks with 7/24 taper for automatic tool changers — Part 1 : Dimensions and designation of shanks of forms A, AD, AF, U, UD and UF*
- JIS B 6339-2 *Tool shanks with 7/24 taper for automatic tool changers — Part 2 :*