

Translated and Published by Japanese Standards Association

JIS B 0659-1:2002 (JSA)

Geometrical Product Specifications (GPS)—Surface texture: Profile method; Measurement standards—Part 1: Material measures

ICS 17.040.20; 17.040.30

Reference number : JIS B 0659-1 : 2002 (E)

B 0659-1:2002

## 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 of revising a Japanese Industrial Standard from the Japanese Standards Association (JSA), with a draft of Industrial Standard based on the provision of Article 12 Clause 1 of the Industrial Standardization Law.

Since the original International Standard does not contain the items concerning the roughness comparison specimens, part of the former standard, **JIS B 0659**: 1996 is modified and described in Annex 1 as an informative reference.

**JIS B 0659** consists of the following two parts.

JIS B 0659-1 Geometrical Product Specifications (GPS)—Surface texture: Profile method; Measurement standards— Part 1: Material measures

JIS B 0659-2 Geometrical Product Specifications (GPS)—Surface texture: Profile method; Measurement standards—Part 2: Software measurement standards (to be published)

Date of Establishment: 2002-03-20

Date of Public Notice in Official Gazette: 2002-03-20

Investigated by: Japanese Industrial Standards Committee

Standards Board

Technical Committee on Machine Elements

JIS B 0659-1:2002, First English edition published in 2003-01

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 2003

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

## Contents

		Page	
Intr	oduction	1	
1	Scope	1	
2	Normative references	2	
3	Terms and definitions		
4	Design requirements for measurement standards		
4.1	Material		
4.2	Size of measurement standard	3	
5	Types, purposes and metrological characteristics of measurement standards	3	
5.1	General	3	
5.2	Type A—Depth measurement standard	3	
5.3	Type B—Tip condition measurement standard	3	
5.4	Type C—Spacing measurement standard	4	
5.5	Type D—Roughness measurement standard	4	
5.6	Type E—Profile coordinate measurement standard	5	
6	Measurement standard requirements	5	
6.1	Type A—Depth measurement standard	5	
6.2	Type B—Tip condition measurement standard	6	
6.3	Type C—Spacing measurement standard	7	
6.4	Type D—Roughness measurement standard	8	
6.5	Type E—Profile coordinate measurement standard	9	
7	Definition of the measurands for the measurement standards	10	
7.1	Type A1	10	
7.2	Type A2	10	
7.3	Type B2	11	
7.4	Type B3	11	

## B 0659-1:2002

7.5	Types C1 to C4,	and D	12
7.6	Type E1		12
7.7	Type E2		12
8	Measurement star	ndard certificate	13
Anne	x A (informative)	Relation to the GPS matrix model	14
Anne	x B (informative)	Bibliography	15
Anne	x 1 (informative)	Roughness comparison specimens	16
		Comparison table between JIS and corresponding International Standard	19

## Geometrical Product Specifications (GPS)— Surface texture: Profile method; Measurement standards—

Part 1: Material measures

JIS B 0659-1:2002

Introduction This Japanese Industrial Standard has been prepared based on the first edition of ISO 5436-1 Geometrical Product Specifications (GPS)—Surface texture: Profile method; Measurement standards—Part 1: Material measures published in 2000 with some modifications of the technical contents.

This Standard is part of the Geometrical Product Specifications (GPS), is to be regarded as a general GPS standard (see **TR B 0007**), and influences chain link 6 of the chain of standards on roughness curve, waviness curve and primary profile.

For more detailed information of the relation of this Standard to other GPS standards, see Annex A.

This Standard introduces new measurement standards, namely type E, to calibrate the profile co-ordinate system.

The original International Standard does not contain the items concerning the roughness comparison specimens, and part of the former standard, **JIS B 0659**: 1996 is modified and described in Annex 1 as information.

The portions with sidelines or underlines with dots in this Standard are the matters in which the original International Standard has been modified.

Remarks: "Measurement standards" were formerly referred to as "calibration specimens".

1 Scope This Standard specifies the characteristics of material measures used as measurement standards (etalons) for the calibration of metrological characteristics of contact (stylus) instruments for the measurement of surface texture by the profile method as defined in **JIS B 0651**.

Remarks: The International Standard corresponding to this Standard is as follows.

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**.

ISO 5436-1: 2000 Geometrical Product Specifications (GPS)—Surface texture: Profile method; Measurement standards—Part 1: Material measures (MOD)

Information: Etalon is a measuring instrument, material measure, reference material, or measuring system, intended to define, realize, conserve or reproduce a value of a unit or quantity, to serve as a reference (JIS Z 8103).