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(ISO 3274 : 1996)

(JSA)

**Geometrical Product Specifications
(GPS)—Surface texture :
Profile method—
Nominal characteristics of
contact (stylus) instruments**

ICS 17.040.20; 17.040.30

Descriptors : surface-roughness measurement, roughness (surface), smoothness
(surface), surface treatment

Reference number : JIS B 0651 : 2001 (E)

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 the 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 0651 : 1996** is replaced with this Standard.

As the original International Standard does not contain descriptions on inspections, some part of the previous version of **JIS B 0651 : 1996** has been modified and attached as annex 3 (informative).

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

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Geometrical Product Specifications (GPS)— Surface texture : Profile method— Nominal characteristics of contact (stylus) instruments

Introduction This Japanese Industrial Standard has been prepared based on ISO 3274 *Geometrical Product Specifications (GPS)—Surface texture : Profile method—Nominal characteristics of contact (stylus) instruments* published in 1996 without modifying the technical contents.

This Standard is a Geometrical Product Specification (GPS) standard and is to be regarded as a General GPS standard (see TR B 0007). It influences chain link 5 of the chain of standards for roughness profile, waviness profile and primary profile.

For more detailed information of the relation of this Standard to other standards and the GPS matrix model, see annex C.

Filters for profile meters according to ISO 3274 : 1975 were realized as a series connection of two analog RC filters. This led to considerable phase shifts in the transition of the profile and therefore to asymmetrical profile distortions. The influence of this distortion on the parameters R_a and R_z are normally negligible if the sampling lengths (cut-off wavelength) according to ISO 4288 : 1985 are used. Therefore, analog instruments according to ISO 3274 : 1975 or instruments using 2RC filters may be used for assessment of R_a and R_z (see annex A). However, for other parameters the distortion is relevant.

As the original International Standard does not contain description on inspections, some part of the previous version of JIS B 0651 : 1996 has been modified and attached as annex 3 (informative).

The portions sidlined or underlined with dots in this Standard are the matters not stated in the original International Standard.

Remarks : TR B 0007 is identical with ISO/TR 14638 : 1995 *Geometrical Product Specifications (GPS)—Master plan*.

1 Scope This Standard defines profiles and the general structure of contact (stylus) instruments for measuring surface roughness and waviness, enabling existing International Standards to be applied to practical profile evaluation. It specifies the properties of the instrument which influence profile evaluation and it provides the basics of the specification of contact (stylus) instruments (profile meter and profile recorder).

- Notes
- 1 A data sheet dealing with characteristics of contact (stylus) instruments to be completed by the instrument makers is under preparation and will be introduced in a future standard on calibration procedures.
 - 2 The relationships between the waviness cut-off λ_f , tip radius and waviness cut-off ratio are under consideration and will be added to this Standard as an amendment.
 - 3 The International Standard corresponding to this Standard is as follows.