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STANDARD

3274

Second edition
1996-12-01

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

*Spécification géométrique des produits (GPS) — État de surface: Méthode
du profil — Caractéristiques nominales des appareils à contact (palpeur)*



Reference number
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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 3274 was prepared jointly by Technical Committees ISO/TC 57, *Metrology and properties of surfaces*, Subcommittee SC 1, *Geometrical parameters — Instruments and procedures for measurement of surface roughness and waviness*, ISO/TC 3, *Limits and fits*, and ISO/TC 10, *Technical drawings, product definition and related documentation*, Subcommittee SC 5, *Dimensioning and tolerancing*.

This second edition of ISO 3274 cancels and replaces the first edition (ISO 3274:1975) as well as ISO 1880:1979, which have been technically revised.

In particular it takes into account the nominal characteristics of contact (stylus) instruments and their technical development. Modern instruments use phase-correct filters according to ISO 11562.

Annexes A, B, C and D of this International Standard are for information only.

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Introduction

This International Standard is a Geometrical Product Specification (GPS) standard and is to be regarded as a *General GPS standard* (see ISO/TR 14638). 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.