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**Geometrical Product Specifications (GPS) —  
Surface texture: Profile method; Surfaces  
having stratified functional properties —**

**Part 3:**

Height characterization using the material  
probability curve

*Spécification géométrique des produits (GPS) — État de surface: Méthode  
du profil; surfaces ayant des propriétés fonctionnelles différentes suivant  
les niveaux —*

*Partie 3: Caractérisation des hauteurs par la courbe de probabilité  
de matière*



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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 13565-3 was prepared by Technical Committee ISO/TC 213, *Dimensional and geometrical product specifications and verification*.

ISO 13565 consists of the following parts under the general title *Geometrical product specifications (GPS) — Surface texture: Profile method; Surfaces having stratified functional properties*:

- *Part 1: Filtering and general measurement conditions*
- *Part 2: Height characterization using the linear material ratio curve*
- *Part 3: Height characterization using the material probability curve*

Annex A forms an integral part of this part of ISO 13565. Annexes B to F are for information only.

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## Introduction

This part of ISO 13565 is a geometrical product specification (GPS) standard and is to be regarded as a general GPS standard (see ISO/TR 14638). It influences the chain link 2 of the chains of standards on roughness profile and primary profile.

For more detailed information on the relation of this standard to the GPS matrix model see annex E.

This part of ISO 13565 provides a numerical characterization of surfaces consisting of two vertical random components, namely, a relatively coarse "valley" texture and a finer "plateau" texture. This type of surface is used for lubricated, sliding contact, for example in cylinder liners and fuel injectors. The calculations necessary to determine the parameters  $R_{pq}$ ,  $R_{vq}$ , and  $R_{mq}$  ( $P_{pq}$ ,  $P_{vq}$ , and  $P_{mq}$ ) used to characterize these two components separately involves the generation of the material probability curve, the determination of its linear regions, and the linear regressions through these regions.

The parameters are undefined for surfaces not consisting of two such components.