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Standards

Irish Standard  
I.S.EN ISO 11562:1998

# Geometrical product specifications (GPS) - Surface texture : Profile method - Metrological characteristics of phase correct filters (ISO 11562 : 1996)

## I.S.EN ISO 11562:1998

*Incorporating amendments/corrigenda issued since publication:*

EN ISO 11562:1997/AC:2008

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EUROPEAN STANDARD

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Version Française  
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Geometrical product specifications (GPS) - Surface texture: Profile method  
- Metrological characteristics of phase correct filters (ISO 11562:1996/Cor  
1:1998)

Spécification géométrique des produits  
(GPS) - Etat de surface: Méthode du profil -  
Caractéristiques métrologiques des filtres à  
phase correcte (ISO 11562:1996/Cor  
1:1998)

Geometrische Produktspezifikationen  
(GPS) - Oberflächenbeschaffenheit:  
Tastschnittverfahren - Meßtechnische  
Eigenschaften von phasenkorrekten Filtern  
(ISO 11562:1996/Cor 1:1998)

This corrigendum becomes effective on 15 October 2008 for incorporation in the three official language versions of the EN.

Ce corrigendum prendra effet le 15 octobre 2008 pour incorporation dans les trois versions linguistiques officielles de la EN.

Die Berichtigung tritt am 15. Oktober 2008 zur Einarbeitung in die drei offiziellen Sprachfassungen der EN in Kraft.



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COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

**I.S. EN ISO 11562:1998**

**EN ISO 11562:1997/AC:2008 (E)**

**Endorsement notice**

The text of ISO 11562:1996/Cor.1:1998 has been approved by CEN as a European Corrigendum without any modification.



~~IS-EN ISO 11562:1998~~  
**INTERNATIONAL STANDARD ISO 11562:1996**  
**TECHNICAL CORRIGENDUM 1**

Published 1998-06-15

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## **Geometrical Product Specifications (GPS) — Surface texture: Profile method — Metrological characteristics of phase correct filters**

### **TECHNICAL CORRIGENDUM 1**

*Spécification géométrique des produits (GPS) — État de surface: Méthode du profil — Caractéristiques  
métrologiques des filtres à phase correcte*

*RECTIFICATIF TECHNIQUE 1*

Technical Corrigendum 1 to International Standard ISO 11562:1996 was prepared by Technical Committee ISO/TC 213, *Dimensional and geometrical product specifications and verification*.

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#### **Figure B.1**

Replace “Datum planes” with “Datums”.

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**Ref. No. ISO 11562:1996/Cor.1:1998(E)**

**Descriptors:** surface condition, surface waviness, roughness, roughness measurement, measuring instruments, profile meters, filters, metrological characteristics.

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English version

**Geometrical product specifications (GPS) - Surface texture:  
Profile method - Metrological characteristics of phase correct  
filters (ISO 11562:1996)**

Spécification géométrique des produits (GPS) - Etat de  
surface: Méthode du profil - Caractéristiques métrologiques  
des filtres à phase correcte (ISO 11562:1996)

Geometrische Produktspezifikationen (GPS) -  
Oberflächenbeschaffenheit: Tastschnittverfahren -  
Meßtechnische Eigenschaften von phasenkorrekten Filtern  
(ISO 11562:1996)

This European Standard was approved by CEN on 2 November 1997.

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EUROPÄISCHES KOMITEE FÜR NORMUNG

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# INTERNATIONAL STANDARD

**ISO  
11562**

First edition  
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## **Geometrical Product Specifications (GPS) — Surface texture: Profile method — Metrological characteristics of phase correct filters**

*Spécification géométrique des produits (GPS) — État de surface: Méthode  
du profil — Caractéristiques métrologiques des filtres à phase correcte*



Reference number  
ISO 11562:1996(E)

## Foreword

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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 11562 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*.

Annexes A, B and C 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 links 2 and 3 of the chains of standards for roughness profile and waviness profile and chain link 2 of the chain of standards for primary profile and is envisaged also to cover roundness and other form characteristics.

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

For digital instruments, the appropriate filter for surface profile information is a phase correct filter. The chosen weighting function, for the phase correct filter, is Gaussian with a 50 % transmission at the cut-off wavelength. This provides a transmission characteristic with a relatively sharp cut-off.

It is of importance that the transmission for the cut-off wavelength is 50 % since the short wave and long wave portions of the surface profile are separated and can be recombined without altering the surface profile.

**I.S. EN ISO 11562:1998**

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# Geometrical Product Specifications (GPS) — Surface texture: Profile method — Metrological characteristics of phase correct filters

## 1 Scope

This International Standard specifies the metrological characteristics of phase correct filters for the measurement of surface profiles.

In particular it specifies how to separate the long and short wave content of a surface profile.

## 2 Definitions

For the purposes of this International Standard, the following definitions apply.

**2.1 profile filter:** Filter which separates profiles into longwave and shortwave components.

**2.1.1 phase correct profile filter:** Profile filter which does not cause phase shifts which lead to asymmetrical profile distortions.

**2.2 phase correct filter mean line (mean line):** Long wave profile component which is determined for any point of the profile by a weighted mean value derived from adjacent points.

**2.3 transmission characteristic of a filter:** Characteristic which indicates the amount by which the amplitude of a sinusoidal profile is attenuated as a function of its wavelength.

**2.4 weighting function:** Function for calculating the mean line which indicates for each point the weight attached by the profile in the neighbourhood of that point.

NOTE — The transmission characteristic of the mean line is the Fourier transformation of the weighting function.

**2.5 cut-off wavelength of the phase correct filter:** Wavelength of a sinusoidal profile of which 50 % of the amplitude is transmitted by the profile filter.

NOTE — Profile filters are identified by their cut-off wavelength value.

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