

Australian Standard™

**Geometrical product specifications
(GPS)—Indication of surface texture in
technical product documentation**

This Australian Standard was prepared by Committee ME-072, Technical Drawings. It was approved on behalf of the Council of Standards Australia on 9 March 2005. This Standard was published on 4 May 2005.

The following are represented on Committee ME-072:

Department of Defence
Department of Education, Training and Employment (South Australia)
Design Association of New Zealand
Institute for Drafting and Design Australia
Master Builders Australia
TAFE NSW
University of Melbourne

Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about Standards can be found by visiting the Standards Web Shop at www.standards.com.au and looking up the relevant Standard in the on-line catalogue.

Alternatively, the printed Catalogue provides information current at 1 January each year, and the monthly magazine, *The Global Standard*, has a full listing of revisions and amendments published each month.

Australian Standards™ and other products and services developed by Standards Australia are published and distributed under contract by SAI Global, which operates the Standards Web Shop.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at mail@standards.org.au, or write to the Chief Executive, Standards Australia, GPO Box 5420, Sydney, NSW 2001.

This Standard was issued in draft form for comment as DR 04296.

Australian Standard™

**Geometrical product specifications
(GPS)—Indication of surface texture in
technical product documentation**

First published as AS ISO 1302—2005.

COPYRIGHT

© Standards Australia

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher.

Published by Standards Australia, GPO Box 5420, Sydney, NSW 2001, Australia

ISBN 0 7337 6625 2

PREFACE

This Standard was prepared by the Standards Australia Committee ME-072, Technical Drawings.

This Standard is identical with and reproduced from ISO 1302:2002, *Geometrical product specifications (GPS)—Indication of surface texture in technical product documentation*.

As this Standard is reproduced from an International Standard, the following applies:

- (a) Its number appears on the cover and title page while the International Standard number appears only on the cover.
- (b) In the source text, ‘this International Standard’ should read ‘this Australian Standard’.
- (c) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by equivalent Australian Standards, as follows:

<i>Reference to International Standard</i>		<i>Australian Standard</i>
ISO		AS
129	Technical drawings—Indication of dimensions and tolerances	—
129-1	Part 1: General principles	—
1101	Geometrical Product Specifications (GPS)—Geometrical tolerancing Tolerances of form, orientation, location and run-out	—
3098	Technical product documentation—Lettering	—
3098-2	Part 2: Latin alphabet, numerals and marks	—
3274	Geometrical Product Specifications (GPS)—Surface texture: Profile method—Nominal characteristics of contact (stylus) instruments	—
4287	Geometrical product specifications (GPS)—Surface texture: Profile method—Terms, definitions and surface texture parameters	—
4288	Geometrical product specifications (GPS)—Surface texture: Profile method—Rules and procedures for the assessment of surface texture	—
8785	Geometrical Product Specification (GPS)—Surface imperfections—Terms, definitions and parameters	—
10135	Technical drawings—Simplified representation of moulded, cast and forged parts	—
10209	Technical product documentation—Vocabulary	—
10209.1	Part 1: Terms relating to technical drawings General and types of drawings	—

<i>Reference to International Standard</i>		<i>Australian Standard</i>	
11562	Geometrical Product Specifications (GPS)—Surface texture: Profile method—Metrological characteristics of phase correct filters	—	
12085	Geometrical product specifications (GPS)—Surface texture: Profile method—Motif parameters	—	
13565	Geometrical Product Specifications (GPS)—Surface texture: Profile method; Surfaces having stratified functional properties	—	
13565-1	Part 1: Filtering and general measurement conditions		
13565-2	Part 2: Height characterization using the material probability curve	—	
13565-3	Part 3: Height characterization using the material probability curve	—	
14253	Geometrical Product Specifications (GPS)—Inspection by measurement of workpieces and measuring equipment	4826	Geometric Product Specifications (GPS)—Inspection by measurement of workpieces and measuring equipment
14253-1	Part 1: Decision rules for proving conformance or non-conformance with specification	4826.1	Part 1: Decision rules for proving conformance or non-conformance with specifications
14660	Geometrical Product specifications (GPS)—Geometrical features—	—	
14660-1	Part 1: General terms and definitions		
81714	Design of graphical symbols for use in the technical documentation of products—	—	
81714-1	Part 1: Basic rules		

CONTENTS

Page

1	Scope	1
2	Normative references	1
3	Terms and definitions	2
4	Graphical symbols for the indication of surface texture	3
5	Composition of complete graphical symbol for surface texture	5
6	Indication of surface texture parameters	6
7	Indication of manufacturing method or related information	11
8	Indication of the surface lay	12
9	Indication of machining allowance	14
10	Summarizing of indications of surface texture requirements and their values	14
11	Position on drawings and other technical product documentation	14
	Annex A (normative) Proportions and dimensions of graphical symbols	20
	Annex B (informative) Synoptive tables	23
	Annex C (informative) Examples of indication of surface texture requirements	26
	Annex D (informative) Minimum indications for unambiguous control of surface functions	30
	Annex E (informative) Surface texture parameter designations	33
	Annex F (informative) Evaluation length, l_v	36
	Annex G (informative) Transmission band and sampling length	37
	Annex H (informative) Consequences of new ISO surface texture standards	39
	Annex I (informative) Former practice	41
	Annex J (informative) Relation to the GPS matrix model	44
	Bibliography	46

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 link 1 of the chain of standards on roughness, waviness and primary profile.

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

This edition of ISO 1302 has been developed for use together with the new editions of the surface texture standards issued in 1996 and 1997, which introduce many radical changes compared with the content of the former surface texture standards issued in the 1980s. The changes are so radical that the drawing indications in some instances have a completely new interpretation. Annex H gives detailed information on these changes.

Drawing indications applied on technical drawings according to former editions of this International Standard refer to the rules given in the surface texture standards issued at the time of issue and can only be interpreted according to those surface texture standards. Annex I provides information on former practices.

The drawing indications given in this edition are to be used for the unambiguous reference to the new surface texture standards issued in 1996 and 1997.

Textual indications in this edition of ISO 1302 are under continuous development within ISO/TC 213 and a separate, detailed standard on this issue is under preparation. Consequently, the textual indications given may change in future editions of ISO 1302.

Currently in preview, click buy full version

AUSTRALIAN STANDARD

Geometrical Product Specifications (GPS) — Indication of surface texture in technical product documentation

1 Scope

This International Standard specifies the rules for the indication of surface texture in technical product documentation (e.g. drawings, specifications, contracts, reports) by means of graphical symbols and textual indications.

It is applicable to the indication of requirements for surfaces by means of

- a) profile parameters, according to ISO 4287, related to the
 - *R*-profile (roughness parameters),
 - *W*-profile (waviness parameters), and
 - *P*-profile (structural parameters),
- b) motif parameters, according to ISO 12085, related to the
 - roughness motif, and
 - waviness motif,
- c) parameters related to the material ratio curve according to ISO 13565-2 and ISO 13565-3.

NOTE For the indication of requirements for surface imperfections (pores, scratches etc.), which cannot be specified using surface texture parameters, reference is made to ISO 8785, which covers surface imperfections.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 129:—¹ *Technical drawings — Indication of dimensions and tolerances — Part 1: General principles*

ISO 1101:—² *Geometrical Product Specifications (GPS) — Geometrical tolerancing — Tolerancing of form, orientation, location and run-out*

1) To be published. (Revision of ISO 129:1985)

2) To be published. (Revision of ISO 1101:1983)