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Geometrical product specifications (GPS) — Geometrical tolerancing — Pattern and combined geometrical specification

Spécification géométrique des produits (GPS) — Tolérancement géométrique — Spécification géométrique de groupes d'éléments et spécification géométrique combinée

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Contents

Page

Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 213, *Dimensional and geometrical product specifications and verification*.

This third edition cancels and replaces the second edition (ISO 5458:1998), which has been technically revised.

The main changes to the previous edition are as follows:

— exception from the independency principle removed according to ISO 8015;

— rules harmonized to align with ISO 1101;

— unstated rules in ISO 5458:1998 removed;

— concept of "pattern" to control all types of geometrical features introduced more generically, rather than applying it only with position symbol.

Introduction

This document is a geometrical product specification (GPS) standard and is to be regarded as a general GPS standard (see ISO 14638). It influences chain links A, B and C for form, orientation and location.

The ISO/GPS matrix model given in ISO 14638 gives an overview of the ISO/GPS system of which this document is a part. The fundamental rules of ISO/GPS given in ISO 8015 apply to this document and the default decision rules given in ISO 14253-1 apply to specifications made in accordance with this document, unless otherwise indicated.

For more detailed information of the relation of this document to the GPS matrix model, see Annex F.

ISO 1101 and other relevant documents, such as those dealing with the least and maximum material requirement (ISO 2692) and the datum system (ISO 5459), should be taken into consideration when using this document.

This document provides rules for the tolerancing of a tolerance zone pattern, i.e. a collection of tolerance zones constrained to each other with or without reference to a datum system which does not lock all degrees of freedom.

For the presentation of lettering (proportions and dimensions), see ISO 3098-2.

All figures in this document for the 2D drawing indications have been drawn in first-angle projection with dimensions and tolerances in millimeters. It should be understood that third-angle projection and other units of measurement could have been used equally well without prejudice to the principles established.

Annexes A and B provide more information on the changes in practice and differences between this document and ISO 1101 on one hand and ISO 5458:1998 on the other hand.