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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 41858-2022

Geometrical product specifications (GPS) - Population specification

Issued on: October 12, 2022 **Implemented on: October 12, 2022**

Issued by: State Administration for Market Regulation, China National Standardization Administration

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foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part 1.Structure and Drafting Rules of Standardization Documents"

drafted.

This document is equivalent to ISO 18391.2016 "Product Geometric Specification (GPS) Lot Specification".

The following minimal editorial changes have been made to this document.

--- Modified the formula of inertia parameters in Table 3, the international standard formula was wrongly expressed;

--- Added note in A.1 and A.3.

Please note that some content of this document may be patented. The issuing agency of this document assumes no responsibility for identifying patents.

1 Scope

This document specifies the rules for establishing and labeling batch specifications. Batch specifications are used to specify conditions for batch characteristics. from a set of batch artifacts

The value of a certain feature can be obtained in each workpiece of, and the batch feature is established by the obtained feature values.

Batch specifications (applied to the set of batch artifacts as a whole rather than their individual individuals) can be viewed as a single specification (applied to individual individuals)

A supplementary requirement for each artifact in. Batch specifications express statistical assumptions about batch artifacts.

Note 1.The batch specification is in addition to the single GPS specification.

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Note 2.The purpose of this document is to give a method of expressing batch specifications, not a method of designing their tolerances.

2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, dated citations

documents, only the version corresponding to that date applies to this document; for undated references, the latest edition (including all amendments) applies to

this document.

ISO 14405-1 Product Geometric Specifications (GPS) Dimensional Tolerances Part 1.Linear Dimensions [Geometricalproduct

Note. GB/T 38762.1-2020 Product Geometric Specifications (GPS) Dimensional Tolerances Part 1.Linear Dimensions (ISO 14405-1.2016, MOD)

ISO 17450-1 Product Geometric Specifications (GPS) General Concepts Part 1.Models for Geometric Specification and Inspection [Geomet-

verification]

Note. GB/T 24637.1-2020 Product Geometric Specifications (GPS) General Concepts Part 1.Models for Geometric Specification and Inspection (ISO 17450-1.

2011, MOD)

3 Terms and Definitions

Terms and definitions defined in ISO 17450-1 and the following apply to this document.

3.1

Statistics defined by characteristic values obtained from batch workpieces or batch assemblies.

Note 1.The batch feature applies to batches of workpieces.

Note 2.Batch features are statistically significant only if the feature values are based on a global single feature, see Example 2.

Example 1.The arithmetic mean and standard deviation of the global individual features of a batch artifact are batch features.

Example 2.For a given cylindrical feature, its minimum circumscribed cylindrical diameter value is unique. A batch of features based on this global single feature value in the system

meaningful. For a given cylindrical feature, the two-point diameter will fluctuate within a

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certain range due to the shape deviation of the feature. At this point, the cylindrical element's

Batch features cannot be defined by batch values of two point diameters. However, a batch feature can be created from the diameter of the largest two points of the cylindrical feature.

The feature is a global single feature; at the same time, a batch feature can be established by the diameter of the smallest two points of this cylindrical element, and this batch feature is another global single feature.

feature.

3.2

batch condition populationcondition

Limits applied to batch eigenvalues.

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