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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 17852-2018

Replacing GB/T 17852-1999

**Geometrical product specifications (GPS) -- Geometrical
tolerancing -- Profile tolerancing**

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces GB/T 17852-1999 "Dimensions and Tolerances for Shape and Position Tolerance Profiles", and GB/T 17852-

The main technical changes in.1999 are as follows.

--- Increase the application range and interpretation of the outline symbol;

---Increase the description of some symbols in GB/T 1182-2018 and explain the details of these symbols in the contour tolerance

Labeling rules;

--- Increase the default rules for contour tolerance labels;

--- Add Appendix A to explain the definition rules of the combined elements;

--- Add Appendix B, including application examples for 16 profile specifications.

This standard uses the redrafting method to modify the ISO 1660.2017 Product Geometric Specification (GPS) geometric tolerance profile

Tolerance labeling.

There are technical differences between this standard and ISO 1660.2017, and the terms involved in these differences have been passed through the margins on the outer side of the page.

The vertical single line (-) is marked. The corresponding technical differences and their

reasons are as follows.

---About the normative reference documents, this standard has made technical adjustments to adapt to China's technical conditions, adjustments

The situation is reflected in Chapter 2, "Regulatory References", and the specific adjustments are as follows.

- * Replace ISO 1101:2017 with GB/T 1182-2018 modified to international standards;
- * Replace ISO 8015:2011 with GB/T 4249-2018 modified to adopt international standards;
- * Replace ISO 5459:2011 with GB/T 17851 modified to adopt international standards;
- * Replace ISO 17450-1 with GB /Z 24637.1 equivalent to the international standard;
- * Replace ISO 16792 with GB/T 24734, which is not equivalent to the international standard.

This standard also made the following editorial changes.

--- Deleted Table 1 in the introduction of ISO 1660:2017, and changed "Table 2 to Table 4" in ISO 1660:2017 to "Table 1 to Table 3."

This standard is proposed and managed by the National Technical Committee for Standardization of Geometrical Specifications (SAC/TC240).

This standard was drafted. Shanghai Automotive Group Co., Ltd. Technology Center, China Machine Productivity Promotion Center, Dai Keyi (Beijing) Technology

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1 Scope

This standard specifies the geometric tolerance labeling rules for component and derived features.

This standard applies to the line profile and face profile feature symbols defined in GB/T 1182-2018.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 1182-2018 Geometrical Product Specification (GPS) Geometric Tolerance Shape, Orientation, Position and Runout Tolerance (ISO)

1101.2017, MOD)

GB/T 4249-2018 Product Geometry Technical Specification (GPS) Fundamental Principles, Principles and Rules (ISO 8015.2011,

MOD)

GB/T 17851 Product Geometrical Specification (GPS) Geometric Tolerance Benchmark and Benchmark System (GB/T 17851-2010,

ISO 5459.1981, MOD)

GB /Z 24637.1 Geometrical Product Specifications (GPS) Generic Concepts Part 1. Geometric specification and verification mode

(GB /Z 24637.1-2009, ISO /T S17450-1.2005, IDT)

GB/T 24734 Product Technical Documents Digital Product Definition Data Regulations (GB/T 24734-2009, ISO 16792.2006,

NEQ)

ISO 17450-3 Geometrical Product Specifications (GPS) General Concepts Part 3. Measured Elements [Geometricalproduct

Specifications(GPS)-Generalconcepts-Part 3.Tolerancedfeatures]

ISO 22432 Product Geometry Specification (GPS) Elements used in specification and verification [Geometricalproductspecifica-

Tions(GPS)-Featuresutilizedinspecificationandverification]

3 Terms and definitions

GB/T 1182-2018, GB/T 4249-2018, GB/T 17851, GB /Z 24637.1, ISO 17450-3, ISO 22432

And the following terms and definitions apply to this document.

3.1

Profile tolerance label profiletolerancing

Geometric tolerance labels using line profile symbols or face profile symbols.

3.2

Line profile lineprofile

The attributes of the line features.

3.3

Surface profile

The properties of polygon features.

3.4

Unconstrained degrees of freedom non-redundantdegreeoffreedom

The tolerance cannot be determined with a degree of freedom.

4 symbol

The symbols of the geometric features are shown in Table 1.

Table 1 Symbols of geometric features

Line profile symbol

Circular outline symbol

These symbols should be used in the symbol portion of the tolerance box, see 8.2 of GB/T 1182-2018.

Table 2 gives the nominal elements that can be used for each symbol.

Table 2 Combination of allowed geometric feature symbols and nominal measured elements

Measured element

Component (straight line) sqrt

Export features (straight lines) sqrt

Component (curve) sqrt

Export features (curves) sqrt

Component (flat surface) sqrt

Export features (flat surface) sqrt

Component (surface) sqrt

Export features (surfaces) sqrt

For lines and planes, other feature symbols can be used to directly give shape information of the measured elements. For example, the plane can be flattened.