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

GB/T 15754-2025

Replacing GB/T 15754-1995

**Geometrical product specifications (GPS) - Dimensioning and
tolerancing - Cones
(English Translation)**

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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 for standardization documents" Drafting.

This document replaces GB/T 15754-1995 "Dimensions and tolerances of cones on technical drawings" and is consistent with GB/T 15754-1995.

In addition to structural adjustments and editorial changes, the main technical changes are as follows.

- Added terms and definitions such as "conical surface", "cone", "cone angle" and "conicity" (see Chapter 3);
- Modified some contents of "Diagram representation of taper" (see 5.2, 4.3.2 of the 1995 edition);
- Added the description and examples of "truncated cone" (see Chapter 6);
- Added the description of the GPS specification control deviation type (see Chapter 6);
- Deleted the description of cone tolerancing methods such as surface profile method, basic taper method and tolerance taper method (see Chapter 5 of the 1995 edition);
- Deleted the limiting conditions (see Chapter 6 of the 1995 edition);
- Deleted the basic taper method (see Appendix A of the 1995 edition);
- Deleted the tolerance taper method (see Appendix B of the 1995 edition).

This document is modified to adopt ISO 3040:2016 "Geometrical Product Specifications (GPS) Dimensioning and Tolerancing Cones".

The technical differences between this document and ISO 3040:2016 and their reasons are as follows.

--- Added terms and definitions such as "conical surface", "cone" and "cone angle" to make the meaning clear and accurate (see 3.1 to 3.3);

--- ISO 1119 is replaced by the normative reference GB/T 157 to adapt to my country's technical conditions and increase operability (see 5.2);

--- Replace ISO 81714-1 with the normative reference GB/T 16901.1 to adapt to my country's technical conditions and increase operability (See Chapter 4).

The following editorial changes were made to this document.

--- Add variable descriptions in formula (1) to make the meaning more accurate (see 3.1);

--- Adjust the classification of "cone diameter" and "length" in Table 1, changing the title row to the title column, in line with the Chinese expression (see 5.1);

--- Add "---" to the blank column in Table 1, and add a note at the end of the table to indicate "there is only one marking method" to make the meaning more accurate (see 5.1);

--- Added the captions of Figures 1 to 9 to make the meaning more accurate;

--- Example 12 Add a direction element frame after the tolerance frame to make it comply with GB/T 1182 (see A.2);

--- Angle symbols and numbers in Figures 5, 7, 10, 12, Example 1, Example 4, Example 5, Example 6, Example 12, Example 13, etc.

The characters are changed to horizontal direction to comply with GB/T 4458.4;

--- Change D in Figure 10 and formula (A.1) to DA to avoid confusion with the definition of D in Table 1 (see Chapter 6 and Appendix A);

--- Corrected the typographical error of missing superscript "-1" in the upper right corner of the bracket of formula (A.1) (see Appendix A);

--- Corrected the typographical error of the superfluous superscript "°" in "theta°" in Example 1 (see Appendix A);

--- ISO 1101 was replaced by GB/T 1182, which is a reference for information purposes, to adapt to my country's technical conditions and increase operability (see Chapter 6);

--- ISO 8015 is replaced by the informative GB/T 4249 to adapt to my country's technical conditions and increase operability (see B.1);

--- Replace ISO 14253-1 with the informative reference GB/T 18779.1 to adapt to my

country's technical conditions and increase operability (see B.1);

--- ISO 14638 is replaced by the informative GB/T 20308 to adapt to my country's technical conditions and increase operability (see B.1);

---Replace ISO 14405-1 with the informative reference GB/T 38762.1 to adapt to my country's technical conditions and increase operability (See Chapter 6 and Appendix A);

---Replace ISO 14405-3 with the informative GB/T 38762.3 to adapt to my country's technical conditions and increase operability (See Chapter 6 and Appendix A).

1 Scope

This document specifies the method of dimensioning and tolerancing cones in drawings.

This document applies to cones. The cone in this document refers to a right cone. A right cone is a cone whose cross sections perpendicular to the nominal cone axis are all circular.

Cone.

Note 1: This document uses truncated cone as an example, but can also be applied to other types of right cones.

NOTE 2 This document does not restrict the use of other dimensioning and tolerancing methods.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

GB/T 157 Product Geometry Specification (GPS) Cone and cone angle series (GB/T 157-2025, ISO 1119:2011, MOD) GB/T 16901.1 Rules for the representation of graphic symbols in technical documents Part 1: Basic rules (GB/T 16901.1-2008, ISO 81714-1:1999, MOD)

3 Terms and definitions

The following terms and definitions apply to this document.

conical surface

A straight line segment (generatrix) that is at a certain angle to the axis and intersects the axis at one end, and is formed by rotating around the axis.

(See Figure 1).

Index number description.

1---busbar;

2---axis;

3---conical surface.