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

GB/Z 24638-2009

**Geometrical Product Specifications (GPS) -- Linear and angular
dimensioning and tolerancing: +/- limit specifications -- Step
dimensions, distances, angular sizes and radii**

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Foreword

Appendix A and Appendix B of this guidance document are informative appendices.

This Guidance Document is proposed and managed by the National Technical Committee for Standardization of Product Dimensions and Geometrical Specifications.

This guiding technical document was drafted. China Machine Productivity Promotion Center, Zhongyuan Institute of Technology, Xi'an Jiaotong University.

1 Scope

This guidance document defines the $\pm$ limits of step size, distance, angular dimension and radius when the function is related to only two elements specification.

This guidance document is for drawings marked "GB/Z24638" only.

2 Normative references

The following documents contain provisions which, through reference in this Guidance Document, become the provisions of this Guidance Note document. All dated Reference documents, all subsequent amendments (not including errata content), or revisions do not apply to this guidance document, however, drums Recipients of the agreement based on this guidance document are encouraged to study whether the latest versions of these documents are applicable. All undated references the latest version of this document applies to this guidance document.

GB/T 1182 Geometrical product specifications (GPS) Geometrical tolerances Shape, orientation, position and runout tolerances Marking (GB/T 1182-2008, ISO 1101.:2004, IDT) GB/T 18780.1 Geometrical product specifications (GPS) geometric features - Part 1. Basic terms and definitions (GB/T 18780.1-2002, ISO 14660-1.:1999, IDT) GB/Z24637.1 Generic specifications for products - Generic specifications - Part 1. Geometrical specifications and validated models (GB/Z24637.1-2009, ISO/T S17450-1..2005, IDT)

3 Terms and definitions

ISO 129-1, GB/T 1182, GB/T 18780.1 and GB/Z24637.1 established terms and definitions apply to the guidance of technology file.

4.1 Overview

Linear dimensioning applies to dimensioned and distance-filled tolerances between two ideal elements, otherwise GB/T 1182 applies.

4.2 The distance between two parallel planes Dimensioning (step size dimensioning) the step size refers to the distance between two parallel planes (elements) outside the entity that face the same (see Figure 1).

Figure 1 Step size

A plane in two parallel planes serves as the basis for the evaluation.

For the purposes of this document, the step size refers to the fitting plane where the base of the assessment surface is in contact with the other surface and parallel to the base surface of the assessment