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NATIONAL STANDARD OF THE

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eqv ISO 2768-1:1989

General tolerances - Tolerances for linear and angular dimensions without individual tolerance indications

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Foreword

This Standard is formulated through amendment made to GB/T 1804-1992 “General tolerance - Tolerances for linear and angular dimensions without individual tolerance indications” and GB/T 11335-1989 “Limit deviations of angle without tolerance indication” according to the international standard ISO 2768-1:1989 “General tolerance - Part 1: Tolerances for linear and angular dimensions without individual tolerance indications”. It shall be technically equivalent to this Standard.

In this way, it shall enable the general tolerance standard for dimensions without individual tolerance indications of China to be as identical or equivalent to the international standard as possible, so as to adapt to the international trade, technological and economic exchanges, as well as the demands for adoption of international standards for rapid development.

In comparison with the original GB/T 1804 and GB/T 11335, this Standard has added 4 clauses, namely normative reference, definitions, general principles and determination, and also changed the title of the standard.

This Standard has replaced GB/T 1804-1992 and GB/T 11335-1989 from the date of implement.

Annex A of this Standard is an informative annex.

This Standard is proposed by State Bureau of Machine Building Industry.

This Standard shall be under the jurisdiction of National Technical Committee of Standardization for Geometrical Production Specification and Verification.

Drafting organization of this Standard: Mechanical Engineering Research Institute.

Main drafters of this Standard: Li Xiaopei and Yu Hanqing.

General tolerances - Tolerances for linear and angular dimensions without individual tolerance indications

1 Scope

This Standard specifies tolerance classes and limit deviations of general tolerances for linear and angular dimensions without individual tolerance indications.

This Standard applies to the dimensions of parts that are produced by metal removal, it also applies to the dimensions of parts that are formed from sheet metal. The dimensions of non-mental materials or other process method may also reference to this Standard.

This Standard only applies for the following dimensions which do not have an individual tolerance indication:

a) linear dimensions (e.g. external sizes, internal sizes, step sizes, diameters, radius, distances, rounding radius and chamfer heights);

b) angular dimensions, including angular dimensions usually not indicated, e.g. right angles (90°); excluding the angles as mentioned in GB/T 1184, or angles of uniform polygons;

c) linear and angular dimensions produced by machining assembled parts.

This Standard does not apply for the following dimensions:

a) linear and angular dimensions which are covered by reference to other standards on general tolerances;

b) auxiliary dimensions indicated in brackets;

c) theoretically exact dimensions indicated in rectangular frames.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

GB/T 1800.1-1997 Limits and fits - Bases - Part 1: Terminology

GB/T 1184-1996 Geometrical tolerancing - Geometrical tolerances for features without individual tolerance indications (eqv ISO 2768-2:1989)

GB/T 4249-1996 Tolerancing principle (eqv ISO 8015:1985)

GB/T 6403.4-1986 Rounding and chamfered of parts

3 Definitions

3.1 This Standard adopts the relevant terms and definitions given in GB/T 1800.1.

3.2 General tolerances

It refers to the tolerances the can be guaranteed under the normal processing conditions in workshops. If the dimensions adopts general tolerances, there is no need to indicate the limit deviations adjacent to such dimensions.

NOTE: The concepts behind the general tolerance of linear and angular dimensions are given in Annex A (informative annex).

4 General principles

When selecting the tolerance class of the general tolerance for dimensions without individual tolerance indications on drawings, the respective customary workshop accuracy shall be taken into consideration and the corresponding technical documents or standards shall give specific specifications.

If smaller tolerances are required or larger tolerances are permissible and more economical for any individual feature, such tolerances should be indicated adjacent to the relevant nominal dimension.

When the general tolerances for the linear and angular dimensions as specified in this Standard are adopted in drawings or relevant technical documents, they shall be indicated according to the specifications in Clause 6 of this Standard.

The dimensions without individual tolerance indications between two surface processed by different processes (for example, cutting and casting) shall be controlled by the larger values specified in the two general tolerances.

General tolerances specified in angular units control only the general orientation of lines or line elements of surfaces, but not their form deviations. The general orientation of the line derived from the actual surface is the orientation of the contacting line of ideal geometrical form. The maximum distance between the contacting line and the

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