

ICS 17.040.30

CCS J 42



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

GB/T 1957-2006

**Tolerances and general features for plain limit gauges
(English Translation)**

Issued on: February 5, 2006

Implemented on: August 1, 2006

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China**

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Foreword

This Standard replaces GB/T 1957-1981 Tolerances and general features for plain limit gauges.

Compared with GB/T 1957-1981, the main changes of this Standard are as follows.

- Change the format according to GB/T1.1-2000;
- Change the standard's name;
- Add terms and definitions used in this Standard (section 3 of this edition);
- Add description of the symbols used in this Standard (section 4 of this edition);
- Change the hardness of gauge measuring planes (section 13 of the 1981 edition; section 7.4 of this edition);
- Change the finish of gauge measuring planes into roughness (section 14 of 1981 edition; section 7.5 of this edition);
- Add the acceptance and inspection requirements of gauges (section 8 of this edition);

- Modify the recommended gauge types and the size application scope (Annex 1 to

1981 edition; Annex B to this edition);

- Take workpiece determination to be the requirements of the annex (section 3, 4 and

5 of 1981 edition; Annex C of this edition).

This Standard was proposed by China Machinery Industry Federation.

This Standard shall be under the jurisdiction of National Technical Committee on Measuring Instruments of Standardization (SAC/TC 132).

Drafting organization of this Standard. Harbin Measuring & Cutting Tool Group Co., Ltd.

Main drafters of this Standard. Wu Ying, Gao Shanming, and Yao Xuli.

The previous version replaced by this Standard is as follows.

- GB/T 1957-1981.

Tolerances and general features for
plain limit gauges

1 Scope

This Standard specifies the terms and definitions, tolerance, requirements, inspection, marks and package of plain limit gauges.

This Standard applies to plain limit gauges of which the basic dimensions of holes and shafts are up to 500mm, and tolerance grades are IT6 to IT16.

The plain limit gauges (hereinafter referred to as gauges) defined in this Standard apply to inspection of the basic dimensions of holes and shafts specified in GB/T 1800.1-1997 ~ GB/T 1800.4-1999 Limits and Fits.

2 Normative references

The articles contained in the following documents have become part of this document when they are quoted herein. For the dated documents so quoted, all subsequent modifications (including all corrigendum) or revisions made thereafter do not apply to this Standard. However, the parties who reach an agreement according to this Standard are encouraged to study whether the latest versions of these documents may be used. For

the undated documents so quoted, the latest versions (including all modification sheets) apply to this document.

GB/T 1800.1-1997 Limits and fits - Bases - Part 1. Terminology (neq ISO 286-1.1988)

GB/T 1800.2-1998 Limits and fits - Bases - Part 2. Basic rules of tolerances, deviations and fits (eqv ISO 286-1.1988)

GB/T 1800.3-1998 Limits and fits - Bases - Part 3. Numerical values tables of standard tolerances and fundamental deviations (eqv ISO 286-1.1988)

GB/T 1800.4-1999 Limits and fits - Tables of standard tolerance grades and limit deviations for holes and shafts (eqv ISO 286-2.1988)

3 Terms and definitions

The following terms AND definitions determined in GB/T 1800.1-1997 to GB/T 1800.4-1999 apply to this Standard.

8.1.1 The specified dimension values in this Standard are subject to standard measuring

conditions, that is, temperature is 20°C and the measuring force is zero.

8.1.2 The inspection of ring gauges shall be subject to calibration. If there are disputes,

C.3 in Annex C will prevail.

8.2.1 All the parameters of a gauge shall be subject to direct inspection; the major

inspection parameters and inspection instruments are tabulated in Table 5.

Table 5

Major inspection parameters Inspection instruments

Surface roughness Profilors, surface roughness comparison specimens

Roundness of Holomorph plug gauges and ring gauges Roundness measuring instruments

Generatrix straightness Profilors, Grade-0 knife straight edges

Flatness of caliper gauge measuring planes Knife straight edges, optical flats

Parallelism of caliper gauge measuring planes Optimeters, length measuring instruments

Hardness Vickers hardness testers (or Rockwell hardness testers)

9.1 The end face of a plug gauge probe and the non-working surface of other gauges shall

be marked with.

- a) The manufacturer name and registered trademark;
- b) Basic dimension and tolerance codes of the inspected workpiece;
- c) Codes of use of a gauge;
- d) Year of manufacture.

Note 1: Plug gauges with working dimensions less than 14mm are allowed to mark the requirements

from a) to d) on the handle or nameplate.

Note 2: Single-head double-limit gauges should better not be marked with the code of use.

9.2 The packing box shall be marked with.

- a) The manufacturer name and registered trademark;
- b) The name of the product;
- c) Basic dimension and tolerance codes of the inspected workpiece.

9.4 Gauges that are verified to be satisfactory to this Standard shall be furnished with a

certificate, on which the number of this Standard and the date of manufacture shall be marked.

Annex A

(Informative)

Check Gauges

A.1 The dimensional tolerance of a check gauge is 1/2 of that of a working gauge for shafts; the dimensional tolerance of a check gauge contains shape errors.

A.2 The surface appearance of check gauges, the degree of connection of probes and handles, the making material, the measuring plane hardness and treatment shall be in conformity with 7.1~7.4, 7.6.