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

GB/T 7306.1-2000

**Pipe threads with 55 degree thread angle where pressure-tight
joints are made on the threads. Part 1: Parallel internal and
taper external threads**

(English Translation)

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Foreword

International Standard ISO 7-1.1994 "Pipe threads where pressure-tight joints are made on the threads - Part 1. Dimensions, tolerances and designation" specifies two mating types of threads, namely. parallel internal threads and taper external threads ("parallel/taper") and parallel internal threads and parallel external threads ("taper/taper"). This Standard is equivalent to the technical content of mating of parallel internal threads and taper external threads in ISO 7-1.1994.

This Standard replaces the technical content of mating of parallel internal threads and taper external threads in GB/T 7306-1987 "Pipe threads where pressure-tight joints are made on the threads".

Compared with GB/T 7306-1987, the main changes are as follows.

- DIVIDE the technical contents of "parallel/taper" and "taper/taper" mating threads in the old standard INTO two new standards;
- In the new standard, the position of the gauge plane of the internal thread is separated from its end face, and the gauge plane is located at half the

pitch within the end face;

- The new standard uses the thread feature codes R1 and R2 to clearly distinguish the taper external threads used in the two mating types;
- SIMPLIFY the designation method for thread pairs.

This Standard replaces part of the content of GB/T 7306-1987 from the date of implementation.

This Standard was proposed by National Machinery Industry Bureau.

This Standard is under the jurisdiction of National Technical Committee on Threads of Standardization Administration of China.

Mechanical Science Research Institute of the Ministry of Machinery Industry is responsible for the drafting of this Standard. Henan First Tools Factory, Jiangsu Zhuqi Machinery Factory, Loctite (China) Co., Ltd., Xi'an Highway and Transportation University participated in the drafting.

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ISO foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards (DIS) adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a

vote.

International Standard ISO 7-1 was prepared by Technical Committee ISO/TC5, Ferrous metal pipes and metallic fittings. Subcommittee SC5, Threaded or plain end butt-welding fittings, threads, gauging of threads.

This third edition cancels and replaces the second edition (ISO 7-1.1982), which has been technically revised.

ISO 7 consists of the following parts, under the general title Pipe threads where pressure-tight joints are made on the threads.

- Part 1. Dimensions, tolerances and designation
- Part 2. Verification by means of limit gauges

Annex A of Part 1 of ISO 7 is for information only.

Pipe threads with 55 degree thread angle where pressure-tight joints are made on the threads -

Part 1. Parallel internal and taper external threads

1 Scope

This Standard specifies profile, dimensions, tolerances and designation of parallel internal and taper external threads with 55 degree thread angle where pressure-tight joints are made on the threads.

This Standard applies to threaded connection of pipes, valves, fittings, cocks and other pipeline accessories.

It is permissible to add an appropriate sealing medium to thread pairs, such as apply tape, sealant on the thread surface, etc.

2 Reference

The following standards contain provisions which, through reference in this Standard, constitute provisions of this Standard. At the time of publication, the editions indicated are valid. All standards are subject to revision. The parties who are using this Standard shall explore the possibility of using the latest version of the following standards.

GB/T 14791-1993 The terms of screw threads (neq ISO 5408.1983)

3.1 Definitions

In addition to the following two terms, other terms of threads used in the standard are in accordance with GB/T 14791.

3.2 Codes

D - major diameter of the internal thread at the gauge plane;

d - major diameter (gauge diameter) of the external thread at the gauge plane;

4.1 The design profile of parallel internal threads shall comply with the

requirements of Figure 1. The flank angles of the left and right flanks are equal.

The relevant dimensions are calculated according to the following formula.

5.1 The basic dimensions of the pitch diameter and minor diameter of threads

are calculated according to the following formula.

5.2 The theoretical position of the gauge plane of taper external threads lies in

a plane perpendicular to the axis of thread, with a gauge length from the small end face (reference plane) (see Figure 3).

6 Chamfer

The axial length of the chamfer of the small end face of taper external threads and the outer end face of parallel internal threads shall not exceed $1P$.

7.1 The limit deviation ($\pm T/2$) of the gauge length of taper external threads shall

comply with the provisions of columns 9 and 10 of Table 1.

8.1 The useful thread length of taper external threads shall not be less than the

sum of the actual value of the gauge length and the fitting allowance.

Corresponding to the three conditions of the maximum, basic and minimum dimensions of the gauge length, columns 16, 15 and 17 of Table 1 respectively give the minimum useful thread length required for the corresponding condition.