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

GB/T 7306.2-2000

**Pipe threads with 55 degree thread angle where pressure-tight
joints are made on the threads. Part 2: Taper internal and
external threads**

(English Translation)

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1 Scope

This standard specifies the thread profile, dimensions, tolerances, markings of tapered internal and external threads with a thread angle of 55° where pressure-tight joints are made on the threads.

This standard applies to threaded connections of pipes, valves, fittings, plugs and other piping accessories.

Suitable sealing media are permitted within the threaded connections, such as applying tape or sealant to the thread surface.

2 Normative references

The following standards contain provisions which, through reference in this standard, constitute provisions of this standard. At the time of publication of this standard, the versions indicated were valid. All standards are subject to revision, and parties using this standard shall explore the possibility of using the latest versions of the following standards.

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

3.1 Definitions

Except for the two supplementary terms below, all other thread terms used in this standard conform to the provisions of GB/T 14791.

3.1.1

Reference plane

The visible plane referenced when reading the inspection value (positional deviation of the reference plane) during thread inspection with a gauge. It is the large end face of the internal thread or the small end face of the external thread.

3.1.2

Accommodation length

The axial distance from the large end face of the internal thread to the first obstacle preventing the external thread from entering.

3.2 Designation

D - Major diameter of the internal thread on the datum plane;

d - Major diameter (datum diameter) of the external thread on the datum plane;

D2 - Pitch diameter of the internal thread on the datum plane;

d2 - Pitch diameter of the external thread on the datum plane;

D1 - Minor diameter of the internal thread on the datum plane;

d1 - Minor diameter of the external thread on the datum plane;

n - Number of threads per 25.4 mm axial length;

P - Pitch;

H - Original triangle height;

h - Thread height;

r - Radius of thread crest and root arcs;

T1 - Tolerance for external thread datum distance (datum plane position);

T2 - Tolerance for internal thread datum plane position.

4 Design thread profile

The design thread profile of the tapered thread shall conform to the specifications in Figure 1. The flank angles on the left and right sides are equal; the thread taper is 1.16. The relevant dimensions are calculated using the following formulas.

5 Basic dimensions

5.1

The basic dimensions of the thread pitch diameter and minor diameter are calculated using the following formulas.

5.2

The theoretical position of the datum plane for the conical external thread is located in a plane perpendicular to the thread axis and a datum distance from the small end face (reference plane) (see Figure 2). The theoretical position of the datum plane for the conical internal thread is located within a plane which is perpendicular to the thread axis and enters 0.5P (see Figure 3) of the end face (reference plane).

5.3

The distribution of the main dimensions of the tapered external thread and tapered internal thread is shown in Figures 2 and 3, respectively. Their basic dimensions shall conform to the specifications in Table 1.

6 Chamfer

The axial length of the chamfer on the small end face of the tapered external thread and the large end face of the tapered internal thread shall not exceed 1P.

7 Tolerances

7.1

The limit deviation ($\pm T1/2$) of the datum distance of the tapered external thread shall conform to the specifications in columns 9 and 10 of Table 1.

7.2

The limit deviation ($\pm T2/2$) of the position of the datum plane of the tapered internal thread shall conform to the provisions of columns 18 and 19 of Table 1.

8 Thread length

8.1

The effective thread length of the tapered external thread shall not be less than the sum of the actual value of its datum distance and the assembly margin. For the three conditions corresponding to the maximum, basic, minimum datum distances, columns

16, 15, 17 of Table 1 respectively give the minimum effective thread length required for the corresponding cases.

8.2

When the tail of the tapered internal thread does not employ a retraction structure, its minimum effective thread length shall be able to accommodate a tapered external

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