

ICS 21.120.30
CCS J 18



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

GB/T 3478.2-2008

Replacing GB/T 3478.2-1995

**Straight cylindrical involute splines -- Metric module, side fit --
Part 2: 30-degree pressure angle dimensions tables**

圆柱直齿渐开线花键（米制模数 齿侧配合） 第2部分： 30°压力角尺寸表
(English Translation)

Issued on: September 22, 2008

Implemented on: May 1, 2009

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

Table of Contents

Foreword

1 Scope

2 Normative reference documents

3 Size table

Foreword

GB/T 3478 "cylindrical straight teeth involute spline (metric series of teeth with the side)" is divided into nine parts.

- Part 1. General;
- Part 2. 30 ° pressure angle dimension table;
- Part 3. 37.5 ° pressure angle dimension table;
- Part 4. 45 ° pressure angle dimension table;
- Part 5. Inspection;
- Part 6. 30 ° pressure angle M and W;
- Part 7. 37.5 ° Pressure angle M and W;
- Part 8. 45 ° pressure angle M and W;

Part 9. Measuring rods.

This part is part 2 of GB/T 3478.

This part of the revision using ISO 4156-2.:2005 "cylindrical straight teeth involute spline (metric series of teeth with the side) Part 2. ruler Inch ", the main differences are as follows.

--- only use the contents of 5.1 ~ 5.14 as the main content of this part.

This part is GB/T 3478.2-1995 "cylindrical straight teeth involute spline 30 ° pressure angle size table" revision, the main difference as follows.

--- standard name from the "cylindrical straight involute spline 30 ° pressure angle size table" to "cylindrical straight involute spline (rice mold the number of teeth side with) Part 2. 30 ° pressure angle size table";

--- modified the original standard of the error, according to GB/T 1.1 made editorial changes.

This part of the national machinery shaft and accessories standardization technical committee put forward and centralized.

This part of the drafting unit. in the machine productivity promotion center, Harbin Dongan engine manufacturing company, Shijiazhuang sprocket factory, China second Machinery Group Corporation, Taiyuan Heavy Industry Co., Ltd.

This part of the main drafters. Ming Cui new, often treasure India, Xu Wenjiang, Tan Ren Wan, Wang Xiaoling, Deng Gao see.

This part of the previous version of the standard to replace the release of the situation.

--- GB 3478.2-1983, GB/T 3478.2-1995.

Straight cylindrical involute splines (Metric series of teeth with the side) Part 2. 30 ° pressure angle dimension table

1 Scope

This part of GB/T 3478 specifies a 30 ° standard pressure angle flat tooth root and round tooth root (hereinafter referred to as 30 ° flat tooth root and 30 ° round root) all the splines required for involute splines of cylindrical straight teeth.

This part applies to GB/T 3478.1-2008 standard in the provisions of the pressure angle of 30 °, the modulus of 0.5mm ~ 10mm, the involute spline.

The size of this part of the table is according to GB/T 3478.1-2008 Table 3 formula and the tooth side with H/h, and the use of basic test methods Compiled.

2 Normative reference documents

The terms of this document are the terms of this part by reference to this part of GB/T 3478. Any reference to the date of the text , All subsequent amendments (excluding corrigenda) or revisions do not apply to this part, however, encouragement under this section the parties to the agreement study whether the latest versions of these files are available. For undated references, the latest edition of this document applies section.

GB/T 1800.1 Geometrical product specifications (GPS) Limits and mating - Part 1. Basis for tolerances, deviations and mates GB/T 3478.1-2008 Cylindrical straight teeth involute splines (metric series of teeth with side) Part 1. General (ISO 4156-1.

2005, MOD)

3 Size table

3.1 30 ° flat tooth root and 30 ° round tooth root, the modulus of 0.5mm ~ 10mm, the tolerance level of 4,5,6 and 7 of the spline size table, see Table 1 ~

Table 28.

3.2

The limit deviation of the inner spline diameter D_i and the tolerance of the outer spline diameter D_{ee} See GB/T 3478.1-2008.

3.3

Internal spline diameter D_{ei} and outer spline diameter D_{ie} tolerance, from GB/T 1800.1 standard tolerances IT12, IT13 or IT14 Select.

3.4

When the inner and outer splines are machined, the radius of the tooth root is changed. This part gives the minimum radius of curvature of the tooth root arc.

GB/T 3478.1-2008 Table 26.

3.5

When the selected test method is not the basic method, its role in the maximum cogging width, the actual maximum tooth width, the minimum tooth thickness and the actual maximum tooth thickness is calculated as follows.

The maximum tooth width of the role of $E_{vmax} = E_{max} - \lambda$;

The actual tooth width is the minimum value $E_{min} = E_{vmin} + \lambda$;

The minimum tooth thickness $S_{vmin} = S_{min} + \lambda$;

The actual maximum tooth thickness $S_{max} = S_{vmax} - \lambda$.

3.6

When the spline tooth side with the category is not H/h, the size of the size of the spline in the size table should be calculated according to the following formula.

The maximum tooth thickness $S_{vmax} = S + e_{sv}$;

Actual tooth thickness minimum value $S_{min} = S_{vmax} - (T + \lambda)$.

Where.

e_{sv} --- on the role of tooth thickness on the deviation, see GB/T 3478.1-2008 Table 23;

$(T + \lambda)$ --- total tolerance, see GB/T 3478.1-2008 Table 8 ~ Table 21.

See page 24 for details on the large diameter of the large splines and trails.

3.7

Size table Chinese and foreign splines involute start circle diameter maximum value DF_{emax} value is based on the principle of the principle of tooth-type tool derivation of the formula Calculated.

When the spline tooth side with the category is not H/h, DF_{emax} can be calculated according to the formula in Table 3 of GB/T 3478.1-2008.

Table 1 30 ° spline

Number of teeth

Graded circle

diameter

Base circle

diameter

Large diameter Dei

Flat tooth root

Gradually open end

Cut diameter

DF_{imin}

Trails

Actual maximum tooth width $E_{max} = E_{min} + (T + \lambda)$ 4H 5H 6H 7H Number of teeth

5.00	5.50	6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00	11.50	12.00	12.50
13.00	13.50	14.00	14.50	15.00	15.50	16.00	16.50	17.00	17.50	18.00	18.50	19.00	19.50	20.00	20.50
21.00	21.50	22.00	22.50	23.00	23.50	24.00	24.50	25.00	25.50	26.00	26.50	27.00	27.50	4.3301	4.7631
5.1962	5.6292	6.0622	6.4952	6.9282	7.3612	7.7942	8.2272	8.6603	9.0933	9.5263	9.9593	10.3923	10.8253	11.2583	11.6913
12.1244	12.5574	12.9904	13.4234	13.8564	14.2894	14.7224	15.1554	15.5885	16.0215	16.4545	16.8875	17.3205	17.7535	18.1865	18.6195
19.0526	19.4856	19.9186	20.3516	20.7846	21.2176	21.6506	22.0836	22.5167	22.9497	23.3827	23.8157	5.75	6.25	6.75	7.25
7.75	8.25	8.75	9.25	9.75	10.25	10.75	11.25	11.75	12.25	12.75	13.25	13.75	14.25	14.75	15.25
15.75	16.25	16.75	17.25	17.75	18.25	18.75	19.25	19.75	20.25	20.75	21.25	21.75	22.25	22.75	23.25
23.75	24.25	24.75	25.25	25.75	26.25	26.75	27.25	27.75	28.25	5.90	6.40	6.90	7.40	7.90	8.40
8.90	9.40	9.90	10.40	10.90	11.40	11.90	12.40	12.90	13.40	13.90	14.40	14.90	15.40	15.90	16.40
16.90	17.40	17.90	18.40	18.90	19.40	19.90	20.40	20.90	21.40	21.90	22.40	22.90	23.40	23.90	24.40
24.90	25.40	25.90	26.40	26.90	27.40	27.90	28.40	5.60	6.10	6.60	7.10	7.60	8.10	8.60	9.10
9.60	10.10	10.60	11.10	11.60	12.10	12.60	13.10	13.60	14.10	14.60	15.10	15.60	16.10	16.60	17.10
17.60	18.10	18.60	19.10	19.60	20.10	20.60	21.10	21.60	22.10	22.60	23.10	23.60	24.10	24.60	25.10
25.60	26.10	26.60	27.10	27.60	28.10	4.62	5.11	5.60	6.09	6.58	7.08	7.57	8.07	8.56	9.06
9.56	10.05	10.55	11.05	11.55	12.05	12.54	13.04	13.54	14.04	14.54	15.04	15.54	16.03	16.53	17.03
17.53	18.03	18.53	19.03	19.53	20.03	20.53	21.03	21.53	22.02	22.52	23.02	23.52	24.02	24.52	25.02
25.52	26.02	26.52	27.02	0.810											