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

GB/T 1563-2017

Replacing GB/T 1563-2003

Taper keys - Cross section dimensions of keyways

楔键 键槽的剖面尺寸

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Foreword

This standard is drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces GB/T 1563-2003 Taper keys - Cross section dimensions of keyways.

The main technical changes with respect to GB/T 1563-2003 are as follows: the limit deviations for the hub have been modified (see Table 1); the surface roughness of the keyway has been adjusted accordingly (see 4.3).

This standard was proposed by and is under the jurisdiction of the National Technical Committee on Machine Shafts and Fittings of Standardization Administration of China (SAC/TC 109).

Drafting organizations of this standard: China Machinery Productivity Promotion Centre, Hebei Beihuan Machinery General Parts Co., Ltd., and Taiyuan Heavy Industry Co., Ltd.

Main drafters of this standard: Ming Cuixin, Xue Genyou, Wang Xiaoling, Li Haibin and Zhu Yue.

The previous editions of the standard replaced by this standard are GB/T 1563-1979 and GB/T 1563-2003.

1 Scope

The Chinese national standard for the keyways that receive taper keys. A taper key is driven into the slot between a shaft and a hub and wedges them together, so that torque passes by friction on the flats of the key as well as by the shear of the key itself; the 1:100 taper on the key means that the fit is made on assembly, by how hard the key is driven, rather than by machining alone. That in turn means the keyway is not an ordinary parallel slot: the hub groove is deeper at the large end, the depths are quoted for the large end, and the surfaces that carry the wedging load need a finish that will not fret. This standard gives the cross section dimensions and tolerances of the keyways for plain and gib-head taper keys in widths from 2 mm to 100 mm, with limit deviations for normal, close and free connections, the depths of the shaft and hub grooves and the fillet radii, and it fixes the roughness of the

flanks and of the groove bottoms. It is used by machine designers, by shaft and gear makers and by anyone reworking a keyed joint. The 2017 edition revised the limit deviations for the hub and adjusted the keyway surface roughness accordingly.

This standard specifies the cross section dimensions of the keyways of plain type and gib-head type taper keys with a keyway width b from 2 mm to 100 mm.

This standard is applicable to plain type and gib-head type taper keys.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 1031 Geometrical product specifications (GPS) - Surface texture: Profile method - Surface roughness parameters and their values.

GB/T 1564 Plain taper keys.

GB/T 1565 Gib-head taper keys.

3 Dimensions and tolerances

The cross section dimensions and tolerances of the keyways of taper keys are given in Figure 1 and Table 1. Table 1 lists, for key sizes from 2 x 2 up to 100 x 50, the basic width b of the keyway with its limit deviations for the normal connection (shaft N9, hub JS9), the close connection (shaft and hub P9) and the free connection (shaft H9, hub D10), the basic depths of the shaft groove and of the hub groove with their limit deviations, and the minimum and maximum values of the fillet radius.

NOTE 1: $(d + t_2)$ and t_2 denote the depth of the hub groove at the large end.

NOTE 2: on assembly, the inclined face of the key shall bear tightly against the inclined face of the hub groove.

4 Technical conditions

4.1 The dimensions of plain type taper keys shall conform to GB/T 1564.

4.2 The dimensions of gib-head type taper keys shall conform to GB/T 1565.

4.3 General provisions for the surface roughness of the keyway: a) for the two flanks of the width b of the shaft groove and of the hub groove, the surface roughness parameter R_a of GB/T 1031 is selected at the stated value; b) for the bottom faces of the shaft groove and of the hub groove, the parameter R_a of GB/T 1031 is selected within the stated range.