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

GB/T 21013-2025

Replacing GB/T 21013-2007

Machine tool - Hub flangs for plain grinding wheels

机床 紧固平砂轮用砂轮卡盘

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document replaces GB/T 21013-2007 "Grinding Wheel Chucks for Fastening Flat Grinding Wheels on Machine Tools". Compared with GB/T 21013-2007, except for...

Aside from structural adjustments and editorial changes, the main technical changes are as follows.

---A new chapter on "Terms and Definitions" has been added (see Chapter 3);

---Added "General Rules" (see 4.1);

- The requirement for a concave chuck clamping surface has been added (see Figure 1);
- The outer diameter tolerance of the grinding wheel chuck has been changed (see Figure 1, 4.3 of the 2007 edition);
- The geometric tolerances of the grinding wheel chuck have been changed (see Figure 1, sections 4.7 and 4.8 of the 2007 edition);
- The surface roughness requirements for grinding wheel chucks have been changed (see Figure 1, 4.9 of the 2007 edition);
- Added a "grinding wheel chuck interface" (see 4.3);
- The chapter "Inspection before installing the grinding wheel" has been deleted (see Chapter 6 in the 2007 edition);

This document is modified to adopt ISO 666:2012 "Machine tools - mounting grinding wheels via hub flanges".

The technical differences between this document and ISO 666:2012, and the reasons therefor, are as follows.

- ISO 603-1 has been replaced with the normatively referenced GB/T 4127.1 (see Table 1 in Chapter 1, 4.2) to adapt to my country's technical requirements.

Improve operability;

- ISO 603-2 has been replaced with the normatively referenced GB/T 4127.2 (see Figure 1 and Table 1 in Chapter 1, 4.2) to suit Chinese standards.

Technical conditions and improved operability;

- ISO 603-4 has been replaced with the normatively referenced GB/T 4127.4 (see Figure 1 and Table 1 in Chapter 1, 4.2) to suit Chinese standards.

Technical conditions and improved operability;

- The normatively referenced GB/T 4127.6 replaces ISO 603-6 (see Figure 1 and Table 1 in Chapter 1, 4.2) to suit my country's national standards.

Technical conditions and improved operability;

- ISO 603-7 has been replaced with the normatively referenced GB/T 4127.7 (see Figure 1 and Table 1 in Chapter 1, 4.2) to suit Chinese requirements.

Technical conditions and improved operability;

- ISO 603-8 has been replaced with the normatively referenced GB/T 4127.8 (see Figure 1 and Table 1 in Chapter 1, 4.2) to suit Chinese standards.

Technical conditions and improved operability;

---ISO 2768-1 has been replaced with the normatively referenced GB/T 1804 (see Figure 1 in 4.2) to adapt to my country's technical conditions and improve [the quality of the standard].

Operability;

---ISO 4762 has been replaced with the normatively referenced GB/T 70.1 (see Table 1 in 4.2) to adapt to my country's technical conditions and improve reliability.

Operability;

---ISO 1119 [see 4.3a) and b)] has been replaced with the normatively referenced GB/T 157 to adapt to my country's technical conditions and improve operability.

Actual nature;

---ISO 702-1 [see Table 2 of 4.3c), d), and 4.5] has been replaced with the normatively referenced GB/T 5900.1 to adapt to my country's technical requirements.

Conditions, improve operability;

---ISO 12164-1 has been replaced with the normatively referenced GB/T 19449.1 (see Table 2 in 4.5) to adapt to my country's technical requirements.

Improve operability;

---ISO 12164-2 has been replaced with the normatively referenced GB/T 19449.2 (see Table 2 in 4.5) to adapt to my country's technical requirements.

Improve operability;

---A grinding wheel chuck interface with a 1.5 taper shank spindle has been added [see 4.3b)] to accommodate most grinding wheel spindle types in my country's grinding machine industry;

---The selection of grinding wheel chuck materials has been expanded (see 4.4) to better suit my country's specific circumstances.

The following editorial changes have been made to this document.

---To align with existing standards, the standard name has been changed to "Grinding Wheel Chuck for Fastening Flat Grinding Wheels on Machine Tools";

---ISO 6103 has been replaced by GB/T 2492 (see Annex A), which is used for informational reference.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Machinery Industry Federation.

This document is under the jurisdiction of the National Technical Committee on Standardization of Metal Cutting Machine Tools (SAC/TC22).

1 Scope

This document specifies the basic requirements, dimensions, and interfaces for grinding wheel chucks used to fasten flat grinding wheels.

This document applies to standards compliant with GB/T 4127.1, GB/T 4127.2, GB/T 4127.4, GB/T 4127.6, GB/T 4127.7 and...

GB/T 4127.8 specifies flat grinding wheels with an inner diameter to outer diameter ratio $H/D > 0.2$. This also applies to some grinding wheels conforming to GB/T 4127.

Superhard abrasives with the same diameter and a ceramic or metal matrix core, regardless of the material of the matrix core.

This document applies to grinding wheels with a circumferential linear velocity $\leq 50\text{m/s}$ and a grinding wheel spindle drive power $\leq 30\text{kW}$.

This document does not apply to grinding wheel chucks used for cutting grinding wheels.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB/T 70.1 Socket head cap screws (GB/T 70.1-2008, ISO 4762:2004, MOD) GB/T 157 Technical Specifications for Geometric Quantities of Products (GPS) - Series of Tapers and Taper Angles of Cones (GB/T 157-2001, ISO 1119.

1998,eqv)

GB/T 1804 General Tolerances - Tolerances for linear and angular dimensions without specified tolerances (GB/T 1804-2000, ISO 2768-1.

1989,eqv)

GB/T 2492 Measurement of permissible unbalance for bonded abrasive wheels delivered (GB/T 2492-2017, ISO 6103.

2014, MOD)

GB/T 4127.1 Dimensions of bonded abrasives - Part 1: External cylindrical grinding wheels (workpiece clamped between centers) (GB/T 4127.1-2007, ISO 603-1:1999, MOD) GB/T