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

GB/T 26548.4-2020

**Hand-held portable power tools - Test methods for evaluation of
vibration emission - Part 4: Straight grinders**

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Foreword

GB/T 26548 "Handheld portable power tools vibration test methods" is divided into the following parts.

- Part 1.Angle and face grinders;
- Part 2.Gas trigger, nut wrench and screwdriver;
- Part 3.Polishing machines, rotary, sliding and double polishing machines;
- Part 4.Straight shank grinder;
- Part 5.Drills and impact drills;
- Part 6.Compactor;
- Part 7.Punching machine and scissors;
- Part 8.Reciprocating saws, polishing machines and files, and pendulum or rotary saws;
- Part 9.Derusting hammer and needle beam derusting device;
- Part 10.Impact rock drills, hammers and crushers;

---Part 11.Stone Hammer;

---Part 12.Mold grinder;

---Part 13.Fastener drive tools.

This part is Part 4 of GB/T 26548.

This section was drafted in accordance with the rules given in GB/T 1.1-2009.

The translation method used in this part is equivalent to ISO 28927-4.2010 ``Hand-held portable power tools vibration test method Part 4.

Straight shank grinder."

This part incorporates the amendments to ISO 28927-4.2010/Amd.1.2017.The clauses involved in these amendments have been adopted in its

The vertical double line (||) of the outer margin position is marked.

The Chinese documents that have a consistent correspondence with the international documents cited in this section are as follows.

---GB/T 77-2007 Hexagon socket set screws with flat end (ISO 4026.2003, MOD)

---GB/T 78-2007 Hexagon socket set screws with cone point (ISO 4027.2003, MOD)

---GB/T 80-2007 Hexagon socket set screws (ISO 4029.2003, MOD)

---GB/T 4127.12-2008 Dimensions of consolidated abrasives Part 12.Deburring and barren grinding wheels for straight grinders

(ISO 603-12.1999,MOD)

---GB/T 5621-2008 Rock drilling machinery and pneumatic tools performance test method (ISO 2787.1984, MOD)

---GB/T 6247.1-2013 Terminology for rock drilling machinery and portable power tools Part 1.Rock drilling machinery, pneumatic tools and

Pneumatic machinery (ISO 5391.2003, MOD)

---GB/T 6247.2-2013 Terminology for rock drilling machinery and portable power tools Part 2.Hydraulic tools (ISO 17066.

2007, IDT)

---GB/T 14790.1-2009 Mechanical vibration Measurement and evaluation of human body exposure to hand-transmitted vibration Part 1.General requirements

(ISO 5349-1.2001,IDT)

---GB/T 14790.2-2014 Mechanical vibration Measurement and evaluation of human

exposure to hand-transmitted vibration Part 2. Workplace

Practical Guide to Measurement (ISO 5349-2:2001, IDT)

---GB/T 25631-2010 Mechanical vibration Hand-held and hand-guided mechanical vibration evaluation rules (ISO 20643:2005, IDT)

This section has made the following editorial changes.

--- Convert the "bar" in the international standard to "MPa" (1bar=0.1MPa).

This part was proposed by China Machinery Industry Federation.

This part is under the jurisdiction of the National Standardization Technical Committee for Rock Drilling Machinery and Pneumatic Tools (SAC/TC173).

Drafting organizations of this section. Taitian Group Co., Ltd., Tianshui Rock Drilling Machinery Pneumatic Tool Research Institute, National Pneumatic Product Quality Supervision and Inspection

Center, Shaanxi Pneumatic Dynasty Industry and Trade Co., Ltd.

Introduction

This document is a Type C standard specified in ISO 12100.

For machines designed and manufactured in accordance with the requirements of Type C standards, when the requirements of Type C standards are different from those in Type A or Type B standards

At the time, the requirements in the C standard are better than other standards.

ISO 20643 gives general technical conditions for handheld and hand-guided mechanical vibration radiation measurement. GB/T 26548 takes this standard as

Foundation, given the vibration test method of the handheld portable machine, stipulated the operation of the machine under the type test condition and the type test performance

Other requirements. The standard structure and chapter numbering are consistent with ISO 20643.

This part of GB/T 26548 adopts the basic sensor positioning method first adopted in the European series of standards EN60745.

The reason for continuity is inconsistent with ISO 20643 in description. The sensor is preferably placed near the area between the thumb and index finger of the hand, because

This position has the least interference with the operator holding the machine.

Generally, the vibration produced by the grinder varies greatly during use, which is largely due to the change in the imbalance of the installed grinder.

caused. The wear of the grinding wheel during use will also change its imbalance.

In order to provide a test method that can give better reproducibility measurement results, this part of GB/T 26548 adopts a

The test wheel with known unbalance is installed on the machine and used for the test during the working process of running under no-load condition. Different forms of test wheels

The unbalance degree should be selected as far as possible according to the vibration value specified in ISO 20643. The ISO 5349 procedure is used for the assessment of workplace vibration exposure.

For machines that use technical means to automatically reduce the amount of unbalance, considering that its vibration will be underestimated, the vibration of such machines

The value should be multiplied by a correction factor of 1.3. For grinders equipped with cup-shaped wire brushes, the vibration value is multiplied by a correction factor of 1.6.

The value obtained is the type test value, which is used to represent the average value of the upper quartile of the typical vibration of the machine in actual use. however,

Actual values sometimes vary greatly, depending on many factors, including the operator, work tasks, and insertion tools or consumables. The machine itself

The maintenance status may also be important. In real working conditions, the impact of operators and operating procedures on low-amplitude vibration is particularly serious. because

Therefore, the vibration radiation value below 2.5m/s^2 is not recommended for evaluation under real working conditions. In this case, it is recommended to use 2.5m/s^2 vibration

Momentum value to directly evaluate the vibration of the machine.

If precise values are required in a specific workplace, it is necessary to perform measurements in accordance with ISO 5349 under this working condition. In fact

The measured vibration value under working conditions may be higher or lower than the value obtained with this part of GB/T 26548.

Under actual working conditions, the use of excessively unbalanced grinding wheels, baffle wear, or bending of the output shaft are likely to cause higher vibration.

Dynamic value.

Vibration test method for handheld portable power tools