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

GB/T 13344-2019

Replacing GB/T 13344-2010

Down-the-hole hammers and bits

潜孔冲击器和潜孔钻头

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1 Scope

GB/T 13344-2019 is the Chinese national standard on down-the-hole hammers and bits, in the field of mining and minerals. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 30 August 2019 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 March 2020. Classification: ICS 73.100.10, CCS D92. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This Standard specifies terms and definitions, models and basic parameters, technical requirements, test methods, inspection rules as well as marks, packaging, transport and storage for down-the-hole hammers and bits. This Standard is applicable to down-the-hole hammers and bits that are powered by compressed air or a mixed medium of compressed air and water.

2 Normative references

The following referenced 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 1184-1996, Geometrical tolerancing - Geometrical tolerance for features without individual tolerance indications

GB/T 5621, Test methods of performance for rock drilling machines and pneumatic tools

GB/T 6247 (all parts), Rock Drilling Machines and Portable Power Tools - Terminology GB/T 13306, Plate

GB/T 22512.2-2008, Petroleum and natural gas industries - Rotary drilling equipment - Part 2: Threading and gauging of rotary shouldered thread connections

JB/T 7161, General specification of heat-treatment for rock drilling machines and pneumatic tools

JB/T 7165, Rock Drilling Machines and Pneumatic Tools - General Specifications for Assembly

JB/T 7302, Rock drilling machines and pneumatic tools - General specifications for packing of products Where, E - Impact energy, in Joules (J); m - Piston mass, in kilograms (kg), obtained by weighing method; v - Piston impact speed, in meters per second (m/s).

6.5 When using the final velocity method to measure the impact energy of the hammer, through the recorded waveform, calculate the impact frequency of hammer.

6.6 When using the final velocity method to measure the impact energy of the hammer, through a flowmeter with the accuracy not less than level

1.5 that is in series connection to the pipeline, measure the air consumption of hammer.

6.7 Use a Vernier caliper with a resolution not less than 0.02mm or other measuring tools that can meet the same accuracy requirements to inspect the size parameters of hammers and bits.

6.8 The inspection of rear connector thread of hammer is in accordance with GB/T 22512.2-2008.

6.9 The starting air pressure, runaway performance, and flexibility of the hammer are tested on the test bench by simulating working conditions.

7 Inspection rules

7.1 Inspection type The inspection for hammers and bits is divided into exit-factory inspection and type inspection. The exit-factory inspection is carried out by the manufacturing enterprise. The type inspection is entrusted to statutory product quality supervision and inspection agency to carry out.

7.2 Exit-factory inspection

7.2.1 The exit-factory inspection items of hammers and bits shall respectively comply with

Table 8 and Table 9.

7.2.2 Only the products that pass the exit-factory inspection and are attached with quality certificate leave the factory.

7.4 Sampling and rules for judgement

7.4.1 Randomly inspect 5 pieces per batch for hammer's exit-factory inspection. Randomly inspect 10 pieces per batch for bit's exit-factory inspection. When hammers and bits are not in compliance with the standard after inspection, it shall double for re-inspection. If it still fails, this batch of products shall fail in the exit-factory inspection.

7.4.2 Randomly extract from the conforming products in the exit-factory inspection for hammer's type inspection. Extract 2 pieces for each batch. If any item in No. 2, 3, 4, 8 in Table 8 inspection items fails or any two items in No. 1, 5, 6, 7, 9 in Table 8 inspection items fail, this product shall be determined as nonconforming. When 1 of 2 pieces fails, then it shall double for random inspection. If more than 1 (including 1) of 4 pieces fail, this batch of products shall be determined nonconforming in the type inspection.

7.4.3 Randomly inspect 5 pieces for bit's type inspection. If No. 5 item in Table 9 inspection items fails or any two items in No. 1~4 in Table 9 inspection items fail, this product shall be determined as nonconforming. When 1 out of 5 pieces fails, it shall double for random inspection. If more than 1 (including 1) out of 10 pieces fail, this batch of products shall be determined as nonconforming in the type inspection.

8 Marks, packaging, transport and storage

8.1 Marks On the obvious part of the product, there shall be a mark that meets the requirements of GB/T 13306. The content includes:

- a) Name or trademark of manufacturing enterprise;
- b) Product model and product name;
- c) Acceptance air pressure;
- d) Product number;
- e) Manufacturing date (year, month).

8.2 Packaging

8.2.1 Product packaging shall be carried out in accordance with JB/T 7302.

8.2.2 The outer packaging shall be marked with product implementation standard, enterprise name, address and phone number.

8.2.3 The product packing shall be accompanied by the following documents:

- a) Packing list;
- b) Product certification;
- c) Product installation, use and maintenance instructions.

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