

## SINOVO Highlights Cost-Efficiency of Percussion Hammers Amid Alloy Price Volatility



**Beijing, China Apr 16, 2026 ([IssueWire.com](https://www.IssueWire.com))** - Beijing SINOVO International Trade Co., Ltd. (SINOVO Group), a global supplier of construction machinery and exploration equipment, has released a comprehensive technical analysis addressing the rising operational costs in hard rock drilling. As alloy prices experience unprecedented volatility in 2026, the company is highlighting the integration of percussion hammer technology as a strategic solution for the global construction and mining sectors.

**Market Overview: The Impact of Raw Material Fluctuations**

Since the beginning of 2026, the global construction industry has been confronted with a sharp escalation in the cost of essential minerals. Tungsten steel prices have surged nearly fivefold annually, while core alloy materials like tungsten carbide powder have seen year-on-year increases exceeding 370%. This economic shift has directly impacted hard rock formation construction, a sector heavily reliant on cemented carbide for drilling operations.

In current market conditions, traditional drilling rig bit materials can account for over 40% of total material costs. These financial pressures are compounded by technical challenges in hard formations, such as granite and quartzite (with uniaxial compressive strength  $\geq 80$  MPa). In these environments, conventional drilling efficiency often drops to approximately 0.72m/h, leading to rapid bit wear. For pile foundation projects, geological surveys, and mining blasting operations, these factors have created a dual challenge of cost overruns and potential schedule delays.

### **Corporate Background and Strategic Response**

Beijing SINOVO International Trade Co., Ltd. has been active in the construction machinery field since the early 1990s. Over more than 20 years of development and innovation, the company has established long-term strategic cooperation alliances with top equipment manufacturers globally and within China. As a professional supplier of construction machinery equipment and construction solutions, SINOVO Group has earned numerous awards in export projects for many years.

The company's business scope is primarily focused on pile construction machinery, hoisting, water well drilling, and geological exploration equipment. By integrating Down-the-Hole (DTH) Hammer technology into its core product portfolio—which includes deep foundation rigs and core sampling tools—SINOVO Group provides a technical response to the current alloy price crisis.

### **Technical Advantages of the SINOVO Sub-hole Hammer**

- **Material Optimization and Cost Performance**

The SINOVO submersible hammer utilizes a "hard alloy matrix + PDC tooth matrix" structure, paired with YG15C cost-effective alloy. This configuration achieves a Rockwell hardness of HRA 91.5 while reducing material costs by an estimated 20% to 30%. Technical data from the R&D team indicates that the drill bit wear rate is one-third of that seen in conventional products.

In practical application at the Wudongde Hydropower Station project, the SINOVO SD-150 deep foundation drilling rig, equipped with a submersible hammer, achieved single-hole drilling depths of 140 meters. In the field of metal mine exploration, the SD-400 fully hydraulic core drilling rig combined with submersible hammer systems demonstrated bit durability four times longer than traditional products. This performance directly reduced consumables costs by 35% to 45%, providing a buffer against alloy price inflation. Furthermore, the lightweight submersible hammer compatible with XY-4 core drilling rigs has shown advantages in highway geological surveys by offering a "low consumables" profile. All products have successively obtained ISO 9001:2015 certification, CE certification, and GOST certification.

- **Increased Efficiency and Reduced Project Timelines**

The SINOVO submersible hammer achieves drilling speeds of 2.3 m/h in quartzite through a combination of high-frequency impacts (800-3,000 cycles per minute) and low-speed rotation (50-150 rpm). This represents approximately 3.2 times the efficiency of traditional methods.

For instance, a 150-meter hole in hard rock that would typically require 25 to 30 days using conventional techniques can be completed in five days using the SINOVO SNR400C multifunctional water well drill rig equipped with a submersible hammer. To address deeper hard formation demands, the SNR500 water well drill rig, when paired with a medium-high pressure submersible hammer, achieves drilling depths of up to 500 meters with drilling rates ranging from 10 to 35 m/h, which can reduce overall construction costs by up to 80%. In railway slope reinforcement projects, the XY-200 core drilling rig combined with percussion hammers has been shown to shorten exploration hole construction cycles by 60%.

- **Adaptability to Complex Geological Conditions**

Dry drilling technology for percussion hammers demonstrates stability in complex formations, including karst caves and high water levels. Vertical drilling deviation is maintained at  $\leq 1\%$ , which minimizes the risk of hole collapse.

During low-temperature gold exploration in Inner Mongolia (at temperatures of  $-23^{\circ}\text{C}$ ), the XY-2PC core drilling rig paired with low-temperature-resistant percussion hammers achieved a 5 to 10-fold increase in water output. In urban micro pile construction, the SK666 micro pile drilling rig, combined with compact percussion hammers, manages hard rock constraints while adhering to urban environmental regulations. The mud-free construction feature of the GM-5B tracked engineering drilling rigs ensures compliance with urban sensitive zone regulations.

## **Global Presence and Service Network**

Beijing SINOVO International Trade Co., Ltd. has established trade relations with more than 120 countries and regions, forming a diversified marketing pattern and service network on five continents. The sales of SINOVO piling machinery currently holds the position of the first brand in China for the Southeast Asia market and is a consistent supplier for the African exploration industry.

To support its global operations, SINOVO Group provides design services and technical support in Singapore, Dubai, and Algiers. This infrastructure ensures the supply of quality spare parts and technical after-sales service worldwide. The company's multi-scenario adaptability has been validated in major projects ranging from ultra-hard rock formations exceeding 200 MPa in Australia (using SD-400 rigs) to deep water-bearing stratum operations in European and American pile foundation projects (using TR60 rotary drilling rigs).

## **Conclusion**

As the construction industry adapts to the long-term trend of rising alloy prices, Beijing SINOVO International Trade Co., Ltd. continues to provide end-to-end solutions characterized by efficiency and adaptability. By integrating percussion hammer technology with its SD series deep foundation rigs, SNR series water well rigs, XY series core rigs, and SK666 mini pile drivers, the company offers a systematic approach to cost control.

Supported by ISO/CE certified quality assurance and a service network spanning over 120 countries, SINOVO Group remains committed to providing global technology and spare parts supply. Amid increasing global infrastructure demand, these construction solutions are designed to assist enterprises in maintaining operational stability during periods of market volatility.

For more information on the SINOVO Group and its range of construction machinery, please visit:

<https://www.sinovogroup.com/>



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