

Heat treatment of impact piston for rock drill

Discover how heat treatment enhances rock drilling tools" hardness, wear resistance, strength, and longevity, ensuring peak ...

The hydraulic rock drill is a kind of rock drilling machine that uses high-pressure oil as the power to push the piston impact drilling tool and has an independent rotary mechanism. Because of ...

In response to the issues of overheating of the shell and insufficient impact energy of the hydraulic rock drill, this paper focuses on the ...

We apply particularly high level of quality control to each of the machining, welding, heat treatment and grinding processes that are important for rock drills. Above all, the hardness and ...

The invention relates to a heat treatment process for a shank of a rock drill, comprising the following processing steps: step (1) of carbonitriding; step (2) of high temperature tempering; ...

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Its primary function is to generate impact and rotational forces for drilling and breaking. 8 The structure of the rock-drill drifter developed in this study is ...

The rock drill is mainly composed of impact part (shell, cylinder block, accumulator, reversing element, impact piston, buffer piston), rotary part (rotary motor, drive shaft, gear chamber, ...

ROCK DRILLING TOOLS FAILURE ANALYSIS GUIDE Sandvik rock drilling tools are engineered to give optimal long-life performance under hard drilling conditions. Our customers" as-sociate ...

This paper introduces the heat treatment technics of YYG150 hydraulic drill rock machine buffer piston,and adjusts the tempering temperature which make the structure of piston achieve ...

This article mainly explains to you the commonly used heat treatment process for tapered drill rods, including what is heat treatment, the principles of selecting the heat ...

FAQ What materials can pneumatic hammer drills handle? Pneumatic hammer drills are capable of drilling into hard surfaces like concrete, stone, rock, and thick metals. ...

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Thus, shock waves are generated in a rotating drill rod through a repeated impact by a piston to the drill rod. The waves are transmitted to the drill bit connected to the head of ...

If the rock drill comes into contact with corrosive substances (gases or liquids), the exposed surface of the piston will be corroded, and the metal surface will rust or fall off. The rock drill ...

The shank adapter must be quenched because the tapered drill rod shank must withstand the high-frequency impact of the rock drill piston, which is typically ...

The impact energy, impact frequency, and energy utilization rate of two different hydraulic rock drill pistons in low, middle, and high gear were analyzed using a control variable ...

Drilling down - Drill hammer pistons Down-the-hole (DTH) drill hammers are used extensively in drilling applications for hard rock mining and exploration. The hammer is situated behind the ...

The stress wave produced by the piston impact, on the drill rod, is an important factor affecting impact performance. It is particularly important to control the stress waveform generated by ...

The hand-held pneumatic rock drill is a piston rotary unit that is designed mainly for use as a hard rock drill; however, it is equally efficient in soft and medium formations. The ...

The development of rock drills to the hammer-drill type in place of the old reciprocating piston drill, probably is one important cause for the greater steel breakage. Perhaps the manufacturers of ...

Top Hammer XL system complements Sandvik's already wide range of products for large-scale quarrying and OPTIMUM PENETRATION / IMPACT surface mining operations. It allows you ...

The document discusses troubleshooting of failures in rock drills. It describes various types of failures including cavitation erosion, heat-related failure, fatigue failure, plastic deformation, ...

A homebred alloy steel by carburization, quencher and temper was used, with the substitution of the impact piston for importing. The performance of the alloy exceeded the same kind products ...

Discover how heat treatment boosts DTH drill bits" performance by enhancing hardness, toughness, and resistance, reducing maintenance costs.

Classified by purpose: Drift drill rod: mainly used for tunnel excavation, drift drilling and other operations, capable of transmitting large ...

The heat treatment process of drill pipes has a significant impact on their performance, and improper treatment

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may lead to fracture. The following ...

The invention relates to the field of material and heat treatment quality control, in particular to an impact piston of a hydraulic rock drill prepared from steel and a processing method.

The rock drill works on the principle of impact crushing. When working, the piston does high frequency reciprocating movement and continuously impacts the brazing tail. Under the action ...

The tough conditions required to break down rock material into small pieces subject rock drill components to high mechanical stresses and corrosion that lead to the failure of the ...

What impact does the heat treatment process of drill pipes have on their performance? The heat treatment process of drill pipes has a significant impact on their ...

The invention relates to a heat treatment method of an impact piston. The impact piston is made of 20Cr2Ni4. The heat treatment method comprises the following steps of: cleaning the surface ...

The main reason of the piston's failure is impacting the shank with high speed and high frequency. The collision model was setted up based on the actual operation situation of the rock drill. The ...

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