Heat treatment of rock drill impact piston

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 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.

Reinforcing the Role of Heat Treatment in Piston Performance Heat treatment stands as a fundamental process in creating high-performing ...

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 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 ...

Abstract: This case study examines the effect of heat treatment on the surface hardness of a Down-The-Hole (DTH) hammer. The study involved subjecting the hammer to various heat ...

Heat development within percussive drills is primarily afected by friction, compression and kinetic energy as a result of the energy transferred between the hammer and the drill steel. ...

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; ...

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 invention relates to a thermal treatment process of a piston of a rock drill made of 35CrMoV steel. The process comprises the following steps: 1, forging a blank; 2, annealing; 3, ...

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

We provide jack hammer rock drill bits, engineered for durability and performance in the toughest conditions. Our extensive selection includes various sizes and designs, featuring robust ...

Impact piston for COP 1838ME 3115212900 Product Application of Impact piston HZJX mainly produces

rock-drilling tools for mining,constriction,tunneling ...

performance of the impactor piston is directly related to the use of rock drill [6-7]. Aiming at the early failure of the piston of DTH impactor produced by three different heat treatment ...

The invention discloses a heat treatment process for the piston of a down-the-hole hammer and relates to the heat treatment technique of a metal material. The invention aims to improve the ...

Rock breaking: The rock drill produces high-frequency, high-energy impact force by impacting the piston, and transmits the impact energy to the chisel head or chisel bit to ...

Introduction Down the hole (DTH) impactor is a kind of drilling tool used in mining industry. It uses high-pressure air to push the piston to hit the rotating drill bit. When the DTH ...

The invention discloses a parabolic hardening layer induction heating quenching process for an impact end of a piston of a rock drilling device, which belongs to the technical field of high ...

In order to prolong the impact piston lifetime, and support development of new steel grades for rock drilling applications, it is essential to understand and acquire knowledge on the ...

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, ...

Guide Sleeve The guide sleeve restricts the movement direction of the impact piston, ensuring its concentricity during the impact process. It is advisable to manufacture it ...

Advanced rock drill accessories can significantly improve the drilling efficiency, thus enhancing the overall mining efficiency. Applied to rock drill trucks (equipped with special accessories), it ...

Failure analysis of two hydraulic rotary drills used for rock drilling was carried out. Chemical analysis, metallurgical examination, surface fractography and hardness measurement were ...

The main heat treatment process of the piston is as follows: 1) The aging treatment heats the piston and then keeps it warm. For example, heat to ...

Automotive pistons are vital components in internal combustion engines, playing a crucial role in converting the energy generated from fuel combustion into ...

The invention relates to a heat treatment method for a high air pressure drilling tool down-the-hole drill bit. The method includes the following steps: heating the original part of the down-the-hole ...

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 ...

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 ...

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. ...

The small rock drill piston is an important part of the rock drill and is made of 20CrMnTi steel. The technical requirements are: the depth of the hardened layer is 1.5-1.8mm, and the surface ...

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 ...

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 ...

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