



# 北京金煤创业科技股份有限公司

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### DJM 陶瓷金属复合立轴转子/冲击式破碎机蹄锤技术介绍

DJM metal ceramic composite ShoeHammer (Impeller, Anvil) of VSI Crusher technology introduction

立轴转子离心/冲击式破碎机是有立轴的高性能破碎机。转子呈环形，装有马蹄形的锤棒。独特的冲击转子配合啮合的环形衬板，形成超大且有针对性的破碎比。转子离心破碎机物料中的每个颗粒在转子中高速旋转，然后甩向固定的反击板。反击板可由环形衬板或由砂床组成。石打石破碎原理将磨损降至最小程度。

蹄形锤头是转子离心/冲击式破碎机的关键配件，传统锤头多以高铬铸铁或合金模具钢铸造，利用高铬铸铁或合金模具钢硬度高的特点来提高耐磨性，锤头的工作状况具有高冲击，高频率，高耐磨等特点，为了提高蹄形锤头的耐磨及抗冲击性能，DJM 选用高铬铸铁（或马氏体钢）复合 ZTA 陶瓷铸造制作蹄形锤头，采用粉末冶金制芯结合铸造烧结工艺，在高铬铸铁（或马氏体钢）材料表面铸入陶瓷颗粒形成陶瓷金属复合材料加强筋，这层复合层的耐磨性能可达高 Cr 材料的 3 - 4 倍，同时这一复合层的厚度可制成达到原备件厚度的 1/3，陶瓷复合材料的寿命约为高 Cr 合金材料的 2-3 倍以上。提高蹄形锤头工作面的抗磨性能，从而获得即耐磨且抗冲击的锤头。

Rotor centrifugal and Impact crusher (VSI) is a high-performance crusher with a vertical shaft. The rotor is circular with horseshoe-shaped impellers. This unique impeller rotor, combined with the anvil ring, achieves a very large targeted crushing ratio. Every single particle of the input material undergoes extreme acceleration in the patented twin-chamber rotor and is subsequently thrown against the fixed impact wall. The impact wall can consist of an anvil ring or a rock shelf. Thanks to the rock-on-rock principle, only very few machine parts are susceptible to wear.

Horseshoe hammer is the key part of the rotor centrifugal / impact crusher, the traditional hammer is usually casted out from high-chromium cast iron or alloy tool steel to improve its wear resistance by high hardness of the material. The working condition of the hammer requires it to be against high impact, high-frequency and high wear resistance. In order to improve the wear and impact resistance of the horseshoe hammer, DJM selects high-Cr cast iron (or martensite steel) ceramic composite materials, which forms the ceramic metal composite reinforcement through injection of ceramic particles into the high-Cr material, the composite layer hardness is harder than high Cr material 3-4 times, at the same time, the composite layer thickness can be made to a third of the thickness of the original spare parts. Life span of the ceramic composite material is more than 2 times of a high Cr alloy material. Both feature of impact resistance and wear resistance of the horse shoe is achieved after improving the wear resistance of the working surface.

Product include:

High Cr cast iron + ZTA ceramic particles

Martensite steel + ZTA ceramic particles



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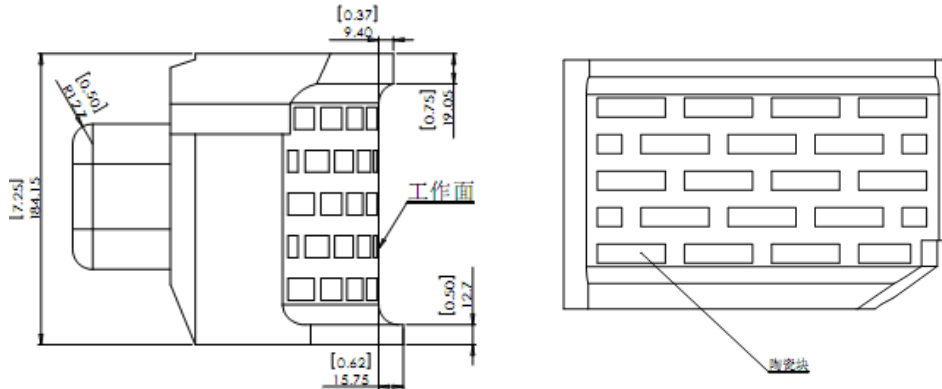
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附图-1 高 Cr 陶瓷复合蹄形锤头示意图

Picture -1 external view of ShoeHammer



Position-1 basis material Position-2 Ceramic composites

附图-2 高 Cr 陶瓷复合蹄形锤头外观图

Picture -2 external view



附图-3 高 Cr 陶瓷复合蹄形锤头外观局部放大图

Picture -3 partial enlargement of appearance



附图-1-4 高 Cr 陶瓷复合蹄形锤头局部解剖图

Picture 1-4 Part sectioned view

