锤体式破碎机的设计

摘 要

锤式破碎机是一种普通材料的细化设备，不仅适用于工业生产中的强硬材料的细节，同样也适用于软物料的细节处理。由于在作业中的凿削和切削对破碎操作的影响，导致锤子中的构件磨损更多，其中，锤头的磨损更加严重。因此，在性能保证的情况下，减少消耗操作的设备数量对于降低组织成本非常重要。因此，在性能保证的情况下，减少消耗操作的设备数量，对于降低成本非常重要。

本文以立轴锤式破碎机为研究对象，分析了碰撞过程中各种破碎机的情况，并建立了等效模型，借助机械模拟工具的帮助建立了碰撞载荷曲线，并且此负载用于研究此类破碎机的静态状态。使用这种工具还能观察轴组件及其主要部件的主要结构的变形和应力状态。通过观察示动态性能，以获得整个机器的主轴结构组成以及在主要振动模式下主轴的状态的变形。在此基础上，根据损失最大的锤头设计理念，结合锤模型结构，提出了一种改进设计理念，同时提出了在研究过程中使其能既能满足基本性能又能减少材料耗损的改进方案。

关键词:锤式破碎机;破碎载荷;静动态分析;锤头

Abstract

Hammer crusher is a kind of equipment for refining ordinary materials. It is not only suitable for the details of strong materials in industrial production, but also suitable for the details of soft materials. Due to the impact of the chiseling and cutting in the operation on the crushing operation, the components in the hammer wear more, and the wear of the hammer head is more serious. Therefore, in the case of performance guarantee, reducing the number of devices that consume operations is of great significance to reduce the cost of the organizational structure.

This article takes the vertical shaft hammer crusher as the research object, studies the various conditions of the crusher during the collision and establishes an equivalent model, draws the collision load curve with the help of mechanical simulation simulation tools, and uses this load to analyze the static state of this type of crusher performance,. Using this tool can also observe the deformation and stress state of the main structure of the shaft assembly and its main components. Observe the dynamic performance to obtain the composition of the main shaft structure of the whole machine and the deformation state of the main shaft in the main vibration mode. On this basis, based on the combination of the structural design concept of the hammer head with the largest loss and the structural model of the hammer head, an improved design concept is proposed, and at the same time, it is proposed in the research process that it can meet both basic performance and performance Improvement plan to reduce material consumption.

Key words: hammer crusher; Crushing load; Static and dynamic analysis; Hammer head

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