

CASE STUDY

IMPROVING CONE CRUSHER HEAD DESIGN AND PERFORMANCE

H-E PARTS INTERNATIONAL (H-E PARTS) SPECIALIZES IN PROVIDING WEAR MANAGEMENT SOLUTIONS. H-E PARTS LINER DEVELOPMENT PROGRAM HAS BEEN DEVELOPED TO OPTIMISE LINER DESIGNS ON A SITE BY SITE BASIS AND INVOLVES THE ONGOING ANALYSIS OF SITE OPERATIONAL REQUIREMENTS, MACHINE OPERATING PARAMETERS AND WORN LINER PROFILES.

A NSW gold and copper mine were experiencing premature failures of its OEM supplied MP1000 heads, due to cracking of the head castings starting from the bottom and radiating upwards. This ongoing issue led the mine to engage H-E Parts to supply an alternative compatible component head to suit the MP1000 crusher and alleviate the resulting unplanned breakdowns.

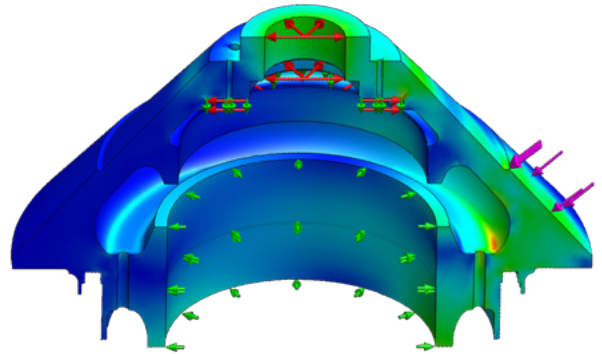
It was found that premature failures of these machines due to cracks in the head castings were being reported worldwide on both OEM and aftermarket heads. H-E Parts part supplier researched this problem, and sort to rectify this issue and improve the design of the head to ensure common issues were minimized. Extensive failure analysis tests were conducted, leading to design modifications and changes in casting techniques as detailed below, which H-E Parts was able to bring to the market.

DESIGN MODIFICATIONS

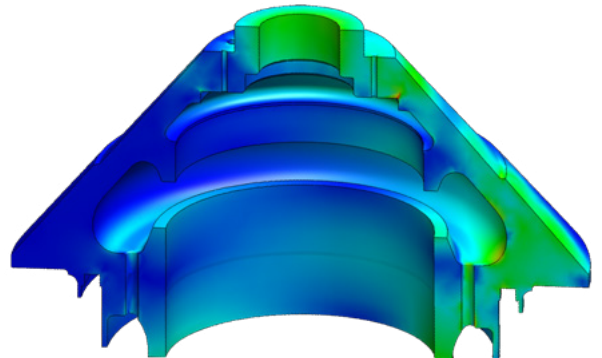
- Redesigned the cored pocket to provide significant stress reductions.
- Redesigned cross section in lower head busing area to provide significant stress reductions.
- Optimized casting techniques, metallurgy and machining to provide significant quality benefits.

As a result of the product quality, performance and cost savings H-E Parts was chosen over the OEM for subsequent orders of a second and third head in the years that followed. H-E Parts is now a preferred supplier based on continuous improvements offered to the customer.

LOCATION	New South Wales (NSW), Australia
APPLICATION	Gold Mine
PRODUCT	Metso MP1000 Cone Crusher



Conventional OEM MP1000 head design



Improved compatible replacement head to suit MP1000 crusher supplied by H-E Parts.

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