

CASE STUDY

IMPROVING GYRATORY CRUSHER 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.

In an Indonesian copper mine, a customer had been struggling with concave life of between six and nine months for their gyratory crushers, with anywhere up to six mantles being used per concave set as a result of poor mantle-concave fit, causing unexpected shutdowns, cost blowouts and lost production. H-E Parts engineers carefully analyzed the application before providing a customized design to produce the desired performance across the full concave life, with consistent life and performance from each mantle.

Since H-E Parts improved the material selection and implemented a mantle and concave redesign, the following has been achieved:

- Full 12-month concave life over a four-mantle set, with a consistent three-month life being achieved with each mantle.
- Primary crusher concave life has increased to 18-20 million tons from long-term average of 14-16 million tons.
- Estimated cost saving over previous supplier: 37% or roughly AU\$2.7M over 5 years.
- Mantle life is now more predictable, preventing unplanned shutdowns.
- The need to re-use old mantles and cut down liners to fit has been eliminated.
- Less downtime and lost production.
- Reduced safety risks.

H-E Parts is now the preferred supplier at this site for the supply of site-specific primary crusher liners.

H-E PARTS CONCAVE AND MANTLE PERFORMANCE

LOCATION	Indonesia
MINE TYPE	Copper Mine
APPLICATION	Gyratory Crusher



CONCAVES	PREVIOUS SUPPLIER	H-E PARTS INTERNATIONAL
Annual target tonnes	20,000,000	20,000,000
Average life (tonnes)	15,000,000	20,000,000
Total usage over 5 years	13	10
MANTLES	PREVIOUS SUPPLIER	H-E PARTS MNELITE
Mantles per concave set	5	4