

Case Study



Primary Gyrotory Concave Liners

Mitak has successfully converted MnSteel concave liners to Mitak White Iron and introduced a re-enforcement for added peace of mind.

Mitak has been manufacturing high chrome re-enforced concaves for primary gyratory crushers since 1985. These concaves were previously cast mainly in 14% manganese steel and in low alloy steel.

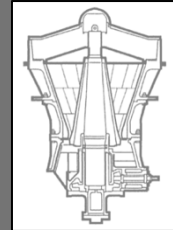
The two problems that were most often encountered prior to converting to Mitak high chrome had been poor wear life and growth of manganese steel which lead to the constant need for gouging. In each highly abrasive application, the Mitak product proved superior in terms of wear life, ease of installation and reduced maintenance costs.

Improvements in wear life of three fold and more have been achieved in all conversions. Machine downtime also reduced due to simpler installation, more predictable wear patterns - and the need to gouge was eliminated.

The table to the right shows the performance of Mitak concaves compared to conventional Manganese steel.

The following features differentiate the Mitak product:

- The Mitak alloy has a minimum hardness above 600 BHN and has been developed to withstand the rigors of primary crushing.
- Concaves are supplied with cast-in steel re-enforcing to extend their duty.
- Mitak concaves are simple to fit by following a tried and tested installation procedure or by using the pin method.
- They are supplied with threads on their top face and each set is supplied with lifting eyes. This eliminates the need for potentially unsafe lifting eyes cast into the working face.
- Castings are supplied stacked upright in secure crates to make for simple and quick handling.
- Correct fitment is assured through each set of concaves being test fitted into a jig made to the crusher bowl dimensions. Concaves are supplied numbered to be installed in sequence.



Crusher	Product	Mn Steel (millions of tons crushed)	Mitak Material (millions of tons crushed)
60 x 102	Iron Ore	7	24
54 x 74	Iron Ore	1,1	8
60 x 109	Iron Ore	2,8	7
48 x 75	Platinum Ore	2	5



Mitak is a global leader in the supply of hi alloy, abrasion-resistant wear parts.
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