

Qiming Casting's newly designed titanium carbide inlaid cone crusher liner has helped a customer in the Philippines to solve the problem of non-abrasive liners

Qiming Casting's cone crusher liners with manganese steel alloy and TiC inserts significantly cuts replacement costs for a Philippines quarrying.

PRODUCT

SBM HPT300 Cone Crusher Mantle and Concaves Mn18Cr2 steel with TIC rods

APPLICATION

SBM HPT300 cone crusher for crushing Cobblestone

CHALLENGE

Increase the wear life of the cone crusher liners in comparison to the previous product.

SOLUTION

The existing cone crusher liners was replaced with a Qiming Casting's liners cast in a manganese steel alloy with titanium carbide inserts in mid-2022.

RESULTS

A set of old mantle and concave work around 348 hours.
A set of our TIC inserts mantle and concave can work around 481 hours.
Our new liners span life around 1.5 times than normal manganese steel liners..

Cast replacement wear parts with improved wear life.

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BACKGROUND

Our Philippines customer have a HPT300 cone crusher production line. An original set of cone crusher liners will last 348 hours; A set of cone crusher liners from a local foundry only lasted 196 hours. The customer in the Philippines wants to purchase a set of cone crusher liners with a service life of over 450 hours.

CHALLENGES

Compare with original crusher liners, the newly designed cone crusher liner life increased by 30%

SOLUTION

Qiming Casting fabricated a set of cone crusher liners with its proprietary 19 percent manganese alloy. The alloy, with the nominal hardness of 230-250 HB, gets stronger the longer the liner is used and is ideally suited for crusher parts with high abrasion and impact. Qiming Casting also added 80-millimeter re-enforced titanium carbide (TiC) inserts to the liner, which further strengthened its high-wear zones and reduces the potential for breakage.

PERFORMANCE & RESULTS

Qiming Casting installed the newly designed titanium carbide inlaid cone crusher liner in the middle of 2022. After 480 hours of work, this cone crusher liner was removed.

SUMMARY

According to the operating records of the HPT300 cone crusher:
Old cone crusher liners from other China foundries, its span life 348 hours 37mins;
Old cone crusher liners from magararu foundry (Philippines local casting foundry), its span life 167 hours 25 mins;
New cone crusher liners from us, its span life 481 hours 53 mins.

The results show:
Our new liners span life 1.4 times than any other China foundries;
Our new liners span life 2.9 times than Philippines local casting foundry.

DATA FOR LINERS OF HP300 CONE CRUSHER

1. Old liners from china : 348hrs 37min
2. Mantle liner from magararu: 167hrs 25mins



PHOTO 01. reference for mantle liner usage time of magararu.

3. Runtime start using of bowl and mantle liner w/ titanium carbide insert : 2668hrs 20min



PHOTO 02. reference time before using new liners w/ Ti C

4. Runtime end using of bowl and mantle liner w/ titanium carbide insert : 3155hrs 35min



PHOTO 03. reference time after using new liner w/Ti C

5. Total usage time of liners with TiCarbide: 481hrs 53min (Actual usage time : 487hrs 30mins)



PHOTO 04. Reference time usage of new liners.