

Ceramic inserts increase durability and double wear life of clinker hammers

Unicast applied a new technology to the challenge of increasing the wear life of clinker hammers at a Mexico cement plant

PRODUCT

Unicast crusher hammer, fabricated with a metal matrix composite

APPLICATION

Cement operation, clinker crusher

CHALLENGE

Double the lifespan of Cemex Mexico's current clinker crusher hammers, which were being replaced every 58 days.

SOLUTION

The crusher was outfitted with a clever Unicast creation, a hammer cast in a wear alloy steel with ceramic inserts for maximum hardness and durability.

RESULTS

Unicast's hammer is on track to last at least 90 to 100 days, almost than doubling the previous hammers' wear life.

BACKGROUND

At Cemex Mexico's cement operation near Huichapan, in the state of Hidalgo, the hammers in the Magotteaux AH1010 clinker crusher were being rotated every 58 days, costing the operation money in hammer replacements and downtime.

CHALLENGES

Unicast was enlisted in December 2018 to improve the lifespan of Cemex Mexico's crusher hammers by at least 50 per cent.

SOLUTION

Unicast fabricated an innovative hammer with a metal matrix composite of a wear alloy steel with a minimum hardness of 45 HRC and ceramic inserts (W1Z1). A new technology for Unicast, it has a hardness of 8 on the Mohs hardness scale and lends the hammer another level of stability and wear-resistance.

PERFORMANCE & RESULTS

The Unicast W1Z1 hammer is expected to last at least 90 to 100 days, based on ongoing monitoring.

SUMMARY

Thanks to Unicast's creative thinking, its replacement hammer, cast in wear alloy steel with ceramic inserts, is well on its way to increasing the wear life of Cemex Mexico's clinker crusher hammer by at least 50 per cent, and possibly even more.



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250-807-7999
wearparts@unicast.ca

UNICAST.CA

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