

PROVEN SOLUTIONS

KenCast™ Mining Solutions

CASE STUDY

ORIGINAL SOLUTIONS LASTED 15 TO 50 DAYS

KENCAST LASTED 90+ DAYS

KENCAST RESULTS IN THIS TEST WERE UP TO 10X LONGER

UNPRECEDENTED REDUCTIONS OF DOWNTIME

RESULTING IN AN INCREASE OF MORE THAN 30% ORE PRODUCTION

KENCAST CRUSHES ABRASION RESISTANCE RECORDS IN CRUSHING OPERATIONS

APPLICATION	PROBLEM	SOLUTION	RESULT
PRIMARY CRUSHING OPERATION: Discharge Chute	DOWNTIME: Abrasion and Impact Wear	KenCast: Custom Wear Plates to Armor the Chute	INCREASED PRODUCTIVITY: 10X Increase in Maintenance Interval

DOWNTIME MEANS NO TIME FOR SECOND BEST

A mining company in Brazil known for its high volume of mineral extraction in the processing and production of gold needed to reduce downtime replacing wall plates in chutes used in its crushing operations.

The environment in which the wall plates are used is predominantly abrasive. However, weight is also a factor, as the flow of minerals inside the chute can concentrate in several different areas and cause wear similar to an impact on the plates. Depending upon the area of the chute, most of the competitors wall plates used at this site only provided 15 to 50 days of use before downtime was required to replace them – according to the customer.

In March 2022, the customer asked us to develop plates — with a particular emphasis on those used in the discharge chute walls — that would reduce inspection- and replacement-related downtime to increase productivity at its gold mine.



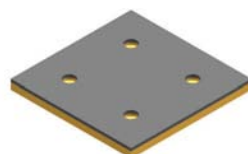
THE KENNAMETAL SOLUTION

In September 2022, we presented a test protocol to the mining company pertaining to the durability of our solution. Additionally, we provided reports from other customers who claim they achieved 30 percent longer wear with our solution compared to the competitors' wall plates they used.

Our experts then put two KenCast KCWB-0938 wall plates to the test. In November 2022, a pair of these plates were painted black for easier identification and placed in the most challenging environment of the chute wall alongside the plates currently in use.

KENNAMETAL KENCAST PLATE KCWB-0938

- Surface: Tungsten-carbide grains in the mixture of -3/8, +5/16 and -1/4, +4
- Base steel: Carbon, manganese, silicon, aluminum, nickel, chromium, and molybdenum



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OUTSTANDING, OUTLASTING ABRASION RESISTANCE

On two separate inspection dates in December 2022 and one after 59 days of operation in January 2023, the KenCast plates were shown to have excellent thickness preservation and carbide grit remaining in tact.

The differentiated composition of the KenCast™ steel base provided exceptional resistance to abrasion. While the competition's nodular iron base plates used at the site for this test were worn down and needed replaced, the KenCast solution kept going and going.

Eventually, one of our plates needed to be swapped out in February 2023 after 90+ days of continuous operation. However, one of the customer's inspectors also concluded that the remaining KenCast plate had potential useful life of another 30 to 60 days.

Compared to the iron-based plates, KenCast plates, based on this test, could last up to nearly 10 times longer! Just as important, the customer could achieve unprecedented reduction of downtime and a significant increase of more than 30 percent in ore extraction, depending on application and material being processed.

Want these kind of results for your operation? Talk to our experts to find out how KenCast mining solutions can provide excellent wear protection and extend the life of your equipment.



The information contained in this report is intended for comparative purposes only and is based upon a limited test sample. The information has no guarantee of actual future results. The information is provided "as is" without any warranty of any kind whether express or implied.

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