Mill*Carb*™

Protecting your Mill from the daily grind

With Mill*Carb*™, we enter a new era of wear protection for mill grinding components, setting new standards for the cement and coal milling industries.

This latest innovation from Welding Alloys is a fully repairable welded ceramic composite metal matrix alloy providing an optimised engineered wear protection solution for grinding components.

The Integra™ solution - Mill*Carb*™, has been developed in collaboration with industry leading mill OEMs and experts in material science to ensure optimum performance when needed most.

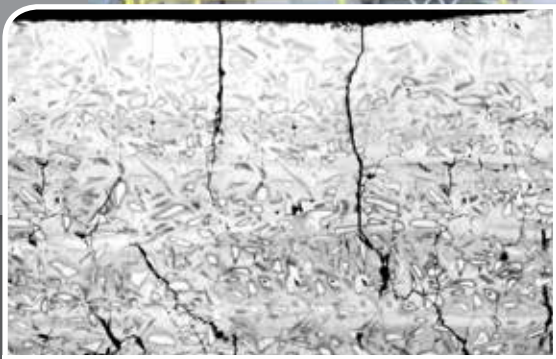
Welding Alloys Group

Features

- Available in single and multi-layer welding of up to 15mm thick
- Fully repairable and re-weldable
- Ceramic metal matrix composite
- Uniform distribution of the ceramic particles

Benefits

- Superior wear resistance
- Reduced total cost of ownership
- Proven to outperform competing solutions
- Easy to refurbish previously welded components
- Optimum process ensuring 100% repeatability
- Special base materials are not required



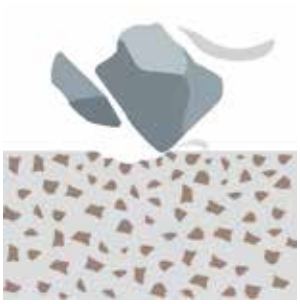
The microstructure of 5-layers of Mill*Carb*™*, showing uniform distribution of the ceramic particles throughout the thickness of the entire weld deposit.*

Vertical mill tyre welded with standard hardfacing on the left and Mill*Carb*™ *on the right*

A closer look at Mill*Carb*™

The Mill*Carb*™ microstructure has been designed to combine the wear resistant properties of advanced and complex ceramics with graded grain sizes and the shock absorbing properties of a metallic matrix, creating the ultimate ceramic metal matrix composite.

Wear pattern without Mill*Carb*™



Advanced wear resistant properties of Mill*Carb*™

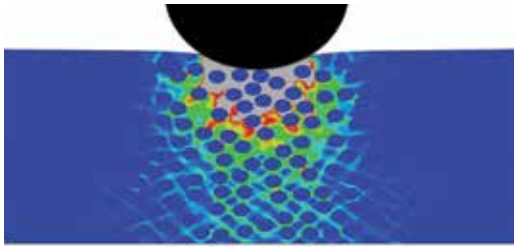
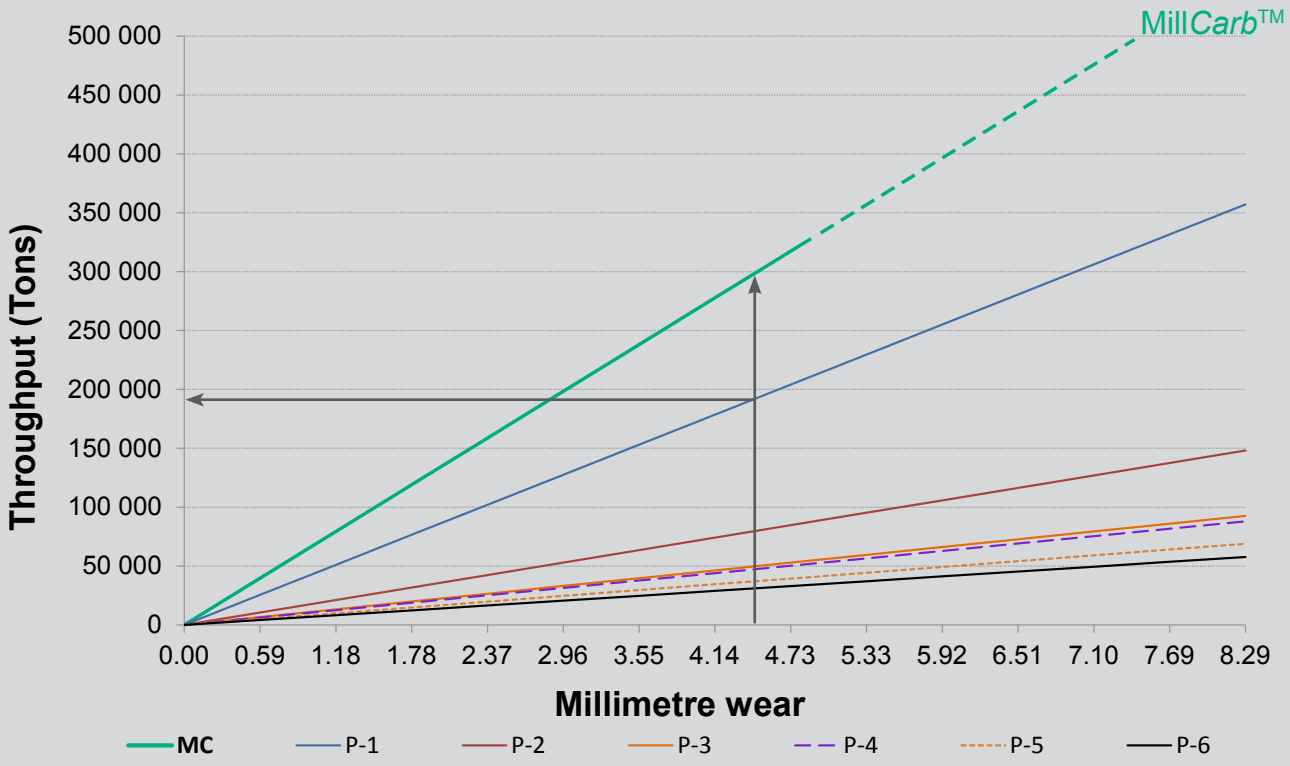


Illustration of the interaction between the particles in Mill*Carb*™ The varying colours highlight the stress distribution leading to wear. The blue spherical particles represent different components of the microstructure

You can't argue with the facts.

The wear rate of Mill*Carb*™ in a real-time coal grinding environment compared to other industry leading products, clearly distinguishes itself from the competition. At a throughput of 300,000 tons, Mill*Carb*™ showed the same wear levels as ceramic embedded rollers experienced at only 190,000 tons in a very abrasive coal grinding environment.



	Welding Alloys Mill*Carb*™
MC	
P-1	Ceramic embedded rollers
P-2	Conventional hardfacing with added tungsten carbide
P-3	Chromium & complex carbide hardfacing
P-4	Chromium & complex carbide hardfacing
P-5	Chromium & complex carbide hardfacing
P-6	Chromium & complex carbide hardfacing

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Welding Alloys Group
The go-to provider of
engineered wear protection solutions