



Ferobide

Weld-on Tungsten Carbide tiles and plates for sliding wear applications.

What is Ferobide?

Ferobide is a weldable tungsten carbide composite material, which combines high levels of wear resistance with the ease and reliability of a weldable material.

The unique features of Ferobide closes the gap between conventional tungsten carbide which requires brazing and weldable materials which have a significant lower wear performance.

Ferobide is ideal in situations where brazing is not an option and for applications involving sliding wear. Ferobide has found its use in critical applications in several different industries such as agriculture, separation, mining, mixing, mineral processing and road maintenance.

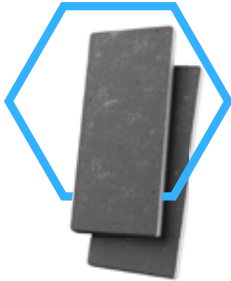
The material is available in a range of standard tile sizes with custom designs available upon request.

Typical Applications

- Chutes
- Mill liners
- Apron Feeders
- Hoppers
- Bins and Surge Bunkers
- Guide rails and pads
- Skirt Liners
- Mixer paddles and scrapers
- Buckets and dump truck bodies
- Hammers

Providing a solution for many more abrasion problems.

Customer Benefits



- Quick and easy to cut and weld on site
- Increase lifetime of components and equipment
- Significantly reduce downtime
- Keep designed engineered shapes for longer
- Protect critical machinery parts
- Various sizes to suit your application

Key Features

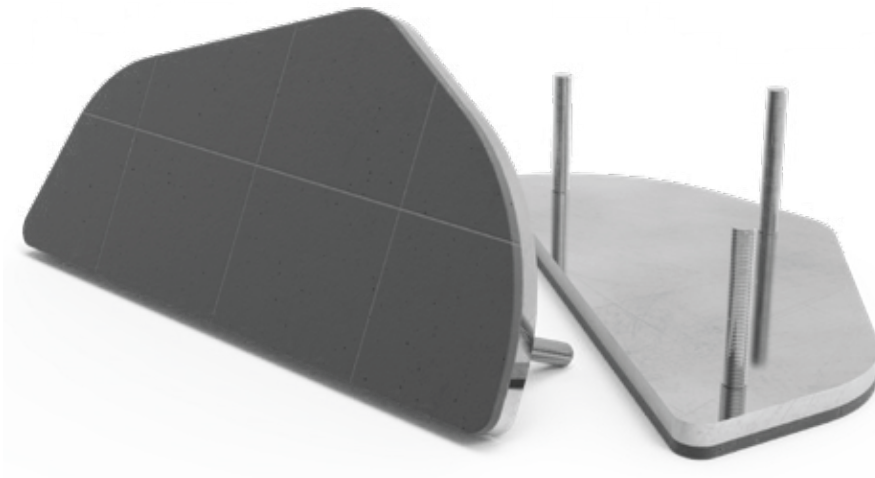
- Extreme abrasive wear resistance
- Weldable and bolt-on applications
- Easy installation

Available Sizes

Custom Made Liner

Wear Liners made to specific design requirements.

(Thickness dependent on application).
(+/- 10% tolerance)



Standard Plates

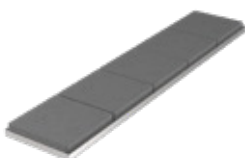
200 x 200mm plates welding to a steel backing, we offer the following:
(Various thicknesses ranging from 6mm to 18mm)
(+/- 10% tolerance)



Strips

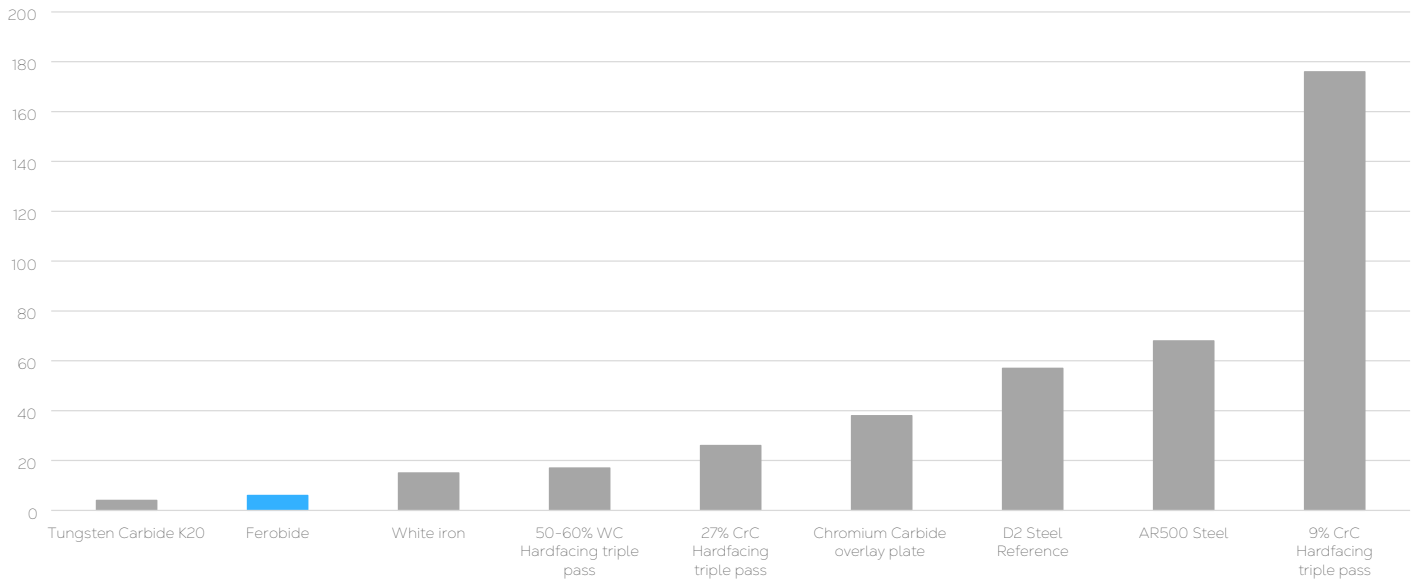
40 x 200mm Ferobide strips welded to a steel backing, we offer the following:

(Various thicknesses ranging from 6mm to 18mm)
(+/- 10% tolerance)



Wear Performance

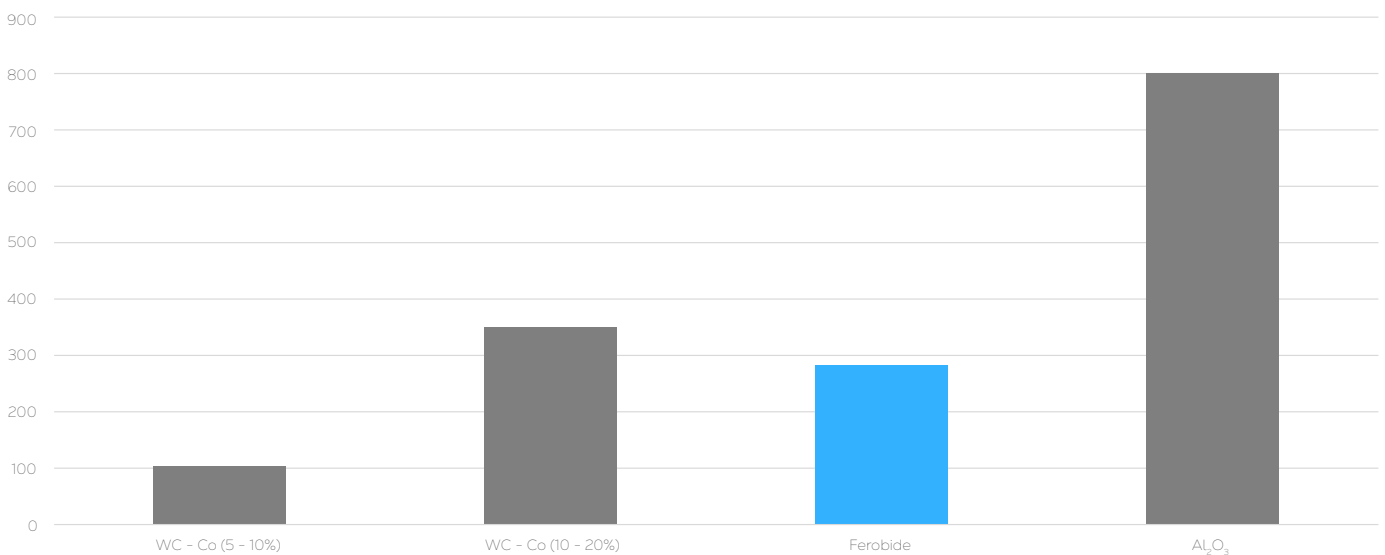
Direct result based on G65-A test method. Resultant mm³ of wear; smaller number = better performance



ASTM G65-A is a standard test method to illustrate the abrasive wear resistance of different materials.

As shown in the graph above, Ferobide has superior wear resistance compared to other weldable options.

ASTM B611 Volume Loss mm³



Wear

Performance

Property	Unit	Ferobide
Hardness	HV	1500 (hard phase) 650 (matrix)
	HRC	67 (hard phase) 58 (matrix)
	HB	1370 ((est) hard phase) 610 (matrix)
Coefficient of Thermal Expansion	W/mK	12-14 x 10 ⁶
Temperature	°C	450

Welding and cutting

Ferobide has been designed to be easy to cut, weld and install in many applications.

- Cut using angle grinder and vice
- Use standard welding equipment and welding rod/wire
- Clamp parts before welding or cutting

Welding and cutting procedure can be provided upon request.

Application

Testimonials

Iron Ore Spoon Chute

Iron Ore Spoon Chute, Canada

- 1 Ferobide plates used in areas of highest wear.
- 2 After 5 mega tonnes of ore processed, the cast white iron plates have worn away, while the Ferobide plates remain intact.



Copper Smelter, Sweden

Crushed Copper Slag Chute

- 1 Chromium carbide plates wearthrough in 3-4 weeks
- 2 Ferobide welded in concentrated wear areas. Very little wear after 4 months. Ferobide eventually lasted 52 weeks.



Application

Testimonials

Iron Ore Feeder Liner

Iron Ore Feeder Liner Protection

2834 t/h of iron ore processed.

The iron ore has a density of approximately 2.4 (t/m³).

The WI of the ore fluctuates between 8 to 12 (kWh/t).

Ferobide showed 0.5mm of wear after 6 months indicating a 3+ year life in application.



Quartz Dolerite, UK

Quarry Chute



The Basalt wore a hole in the Hardox Plate after 4 months.



Over the same period of time, Ferobide showed very little sign of wear.



Application

Testimonials

Basalt Quarry, UK

Grizzly Bar Protection

Competition: Steel and Chocky Bar

Ferobide showed little wear after 6 months compared to the ACERO competitor.

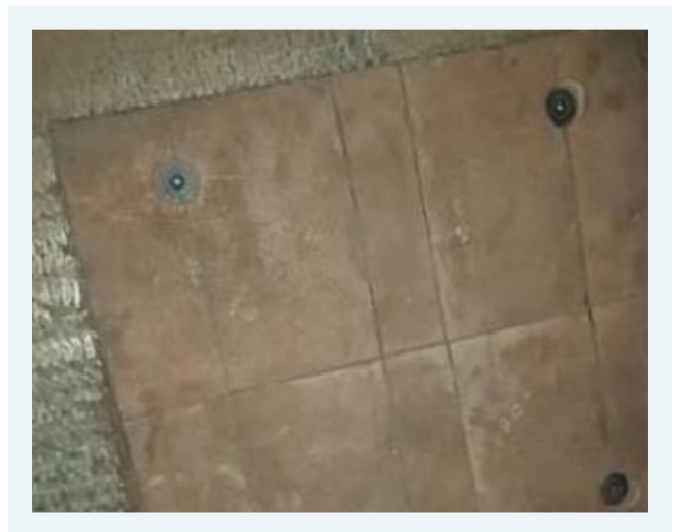


Shougang Hierro, Perú

HPGR Discharge Liner Chutes

Chromium Carbide was lasting 4 weeks on average. Ferobide is currently at 24 weeks and still showing very little sign of wear.

Results are indicating at least 6x superior wear life.



Ferobide

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FEROBIDE

Tenmat Wear warrants the materials it produces will conform to Tenmat Wear specifications and approved drawings where applicable. It is entirely the customer's responsibility to make the final product choice and satisfy themselves of the suitability of the product for the intended application, carrying out testing where required. For construction projects, all products which the customer is intending to use on a particular project must be approved in writing by the customer's building designer, system designer or design control professional, to ensure compliance with the latest regulations.

The information contained in Tenmat Wear data sheets is presented in good faith. The values are "typical only" and are based on test results generally in accordance with BS2782, ASTM, a variety of other main test bodies along with Tenmat Wear internal test methods. These values should not be relied upon for specification purposes or the primary selection of materials. As the data sheet values are typical only, Tenmat Wear does not warrant the conformity of its materials to these properties or the suitability of its materials for any particular purpose. It is the responsibility of the customer to do the necessary testing and satisfy themselves the product is suitable for the intended application.

