



# Ferobide

## Construction & Mining

Ferobide is a reliable solution for protecting wear parts during difficult open pit or underground mining operations.



## Product Description

Ferobide is trusted across the globe to help users by minimising equipment downtime, reducing costs by preventing wearpart damage and extending service life to deliver long-lasting results.

Ferobide is the ideal protection for mining operations which depend on wear-resistant linings that are used in chutes, buckets, conveyors, augers, dumpers, chains and more. Being extremely wear resistant, Ferobide is an optimal choice for reinforcing hard wearing areas of larger systems to reach a balanced life.

## Product Advantages

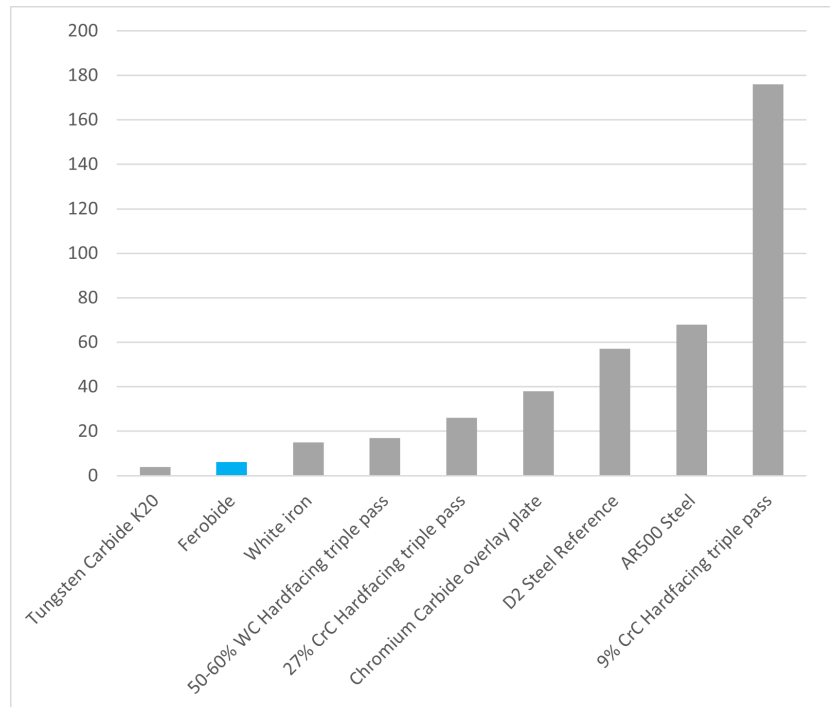
- Avoid downtime, increase part lifetime: Ferobide helps avoid equipment downtime and increases part lifetime. This reduces the time spent replacing worn parts and increases the uptime of machinery.
- Improved mining profits: Ferobide helps to reduce spend on wearing metal and avoids unplanned downtime which in turn improves profit and efficiency.
- Easy to install, quick for repairs: standard MMA and MIG welding methods can be used to install Ferobide tiles and Ferobide can be welded to any position, where brazing tungsten or gluing ceramics cannot be used.
- Reduced diesel use: the attractive wear-performance to weight ratio of Ferobide gives maximum wear protection without increasing weight.
- Increase payload: the low weight to wear ratio also allows weight savings to be made on equipment such as buckets which allows an increase in payload or a reduction of tyre and linkage wear.
- Reduced capital tied to inventory: for manufacturers, distributors, and repairers, a small number of Ferobide SKUs stocked can be used for a wide range of parts. This reduces capital held in stocks.
- Protect investment: Ferobide is longer lasting than conventional wear materials such as overlay plates, white iron and AR steels which greatly increase the overall life of parts and achieve maximum output from machinery.

## Abrasive Wear Performance

### G65-A

A range of materials were tested side by side in a G65-A abrasive wear test. Ferobide recorded in the order of 3 times better wear resistance than 50-60% Tungsten Carbide content triple-pass welded hardfacing and 6 times better wear resistance than Chromium Carbide overlay plate.

### G65-A Result, mm<sup>3</sup> of wear

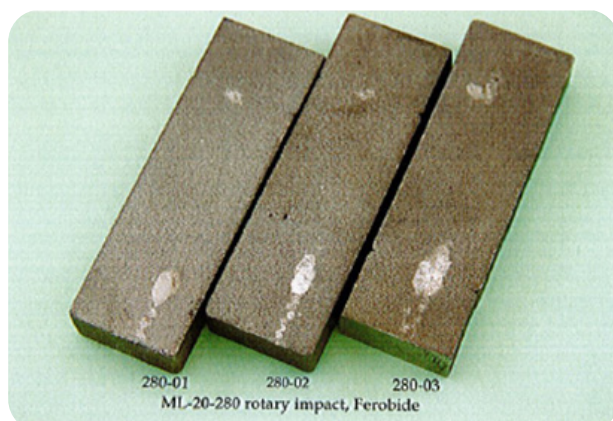


## Impact Wear Performance

### Impact wear testing

InnoTech Alberta tested Ferobide in their Rotary Impact Test used in the oil sands industry.

Ferobide volume loss was minimal at 1.1 mm<sup>3</sup>.



## Metal-on-Metal Sliding Wear

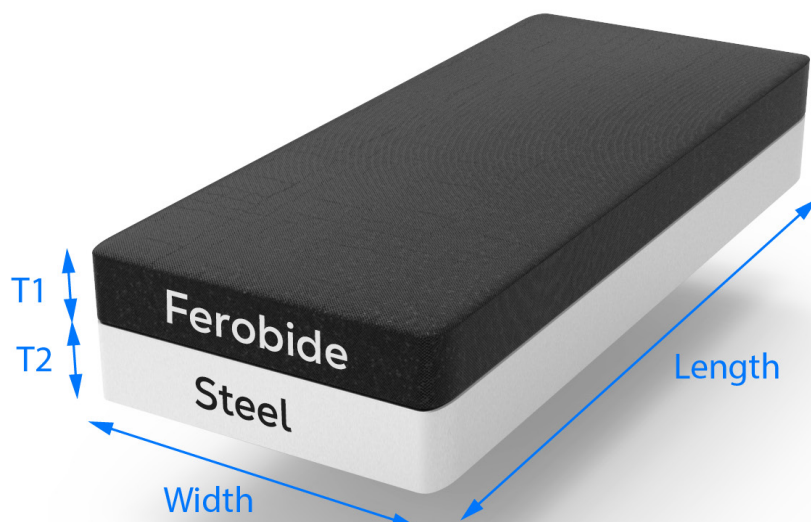
Ferobide has a low friction coefficient when sliding against steel and is the ideal protection for chain guides and sliding strips. The table below shows the relative wear performance of Steel-on-steel vs Ferobide-on-steel and Ferobide-on-Ferobide.

Sliding wear performance	Wear of pad in mm per km	Relative wear performance vs. steel on steel	Wear of counterface in mm per km	Relative wear performance vs. steel on steel
Hardened steel pad on hardened steel counterface	22.8	-	7.6	-
Ferobide pad on hardened steel counterface	0.03	711 times longer life of pad	0.4	19 time less wear of counterface
Ferobide pad on Ferobide counterface	0.3	79 times longer life of pad	n/a	n/a

Ferobide sliding on steel will last 700 times longer than steel part, whilst reducing life of steel counter face by 19 times.

Types of Wear

Types of wear	Direction of flow	Ferobide performance	
Sliding wear	Close to Parallel	Excellent	
Impact wear	20-60 degrees	Very good in low to moderate impact. Unsuitable for high impact.	
Erosive wear	80+ degrees	Good for particles >1mm Unsuitable for particles <1mm	
Corrosive wear		Unsuitable in strong alkalines acids or brines	



#### Availability (mm)

Width	Length	T1 - Ferobide	T2 - Steel
25	180	4, 6, 8, 10, 12	2, 6
40	200	4, 6, 8, 10, 12	2, 6
200	200	4, 6, 8, 10, 12	2, 6

\*Please contact Tenmat for other size and thickness options

#### Welding

- Use MMA, TIG or MIG
- Any electrode/wire/filler will do but dissimilar metal yields strongest joint
- Keep heat input to a minimum
- Weld 2 sides, let cool and then weld the remaining two sides

---

## Formatting Ferobide

Ferobide plates and strips can quickly and easily be trimmed to size by cutting through the mild steel backing and splitting the Ferobide along the slitting line.

- 1) Mark up the desired size of the finished part.
- 2) Cut the mild steel backing along the line using for example an angle grinder with a thin cut-off disc, until resistance from the Ferobide layer is met.
- 3) Clamp part in a vice with the jaws close to and aligned with the cut groove.
- 4) Hit the protruding part from the back steel side and split the part along the cut groove.

---

## Tools

Ferobide can be welded using standard techniques, incl. MMA electrode and MIG wire.

---

## Packaging

Packed in card backed shrink packs, or boxed in bulk quantities

---

## Storage

- Keep dry in storage
- Keep in packaging until ready to use tiles

# Ferobide

---

Tenmat Ltd  
Ashburton Rd West, Manchester  
M17 1TD United Kingdom

+44 161 872 2181  
wpsales@tenmat.com

tenmat.com



Advanced materials.  
tenmat.com

Tenmat warrants the materials it produces will conform to Tenmat 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 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 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 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.