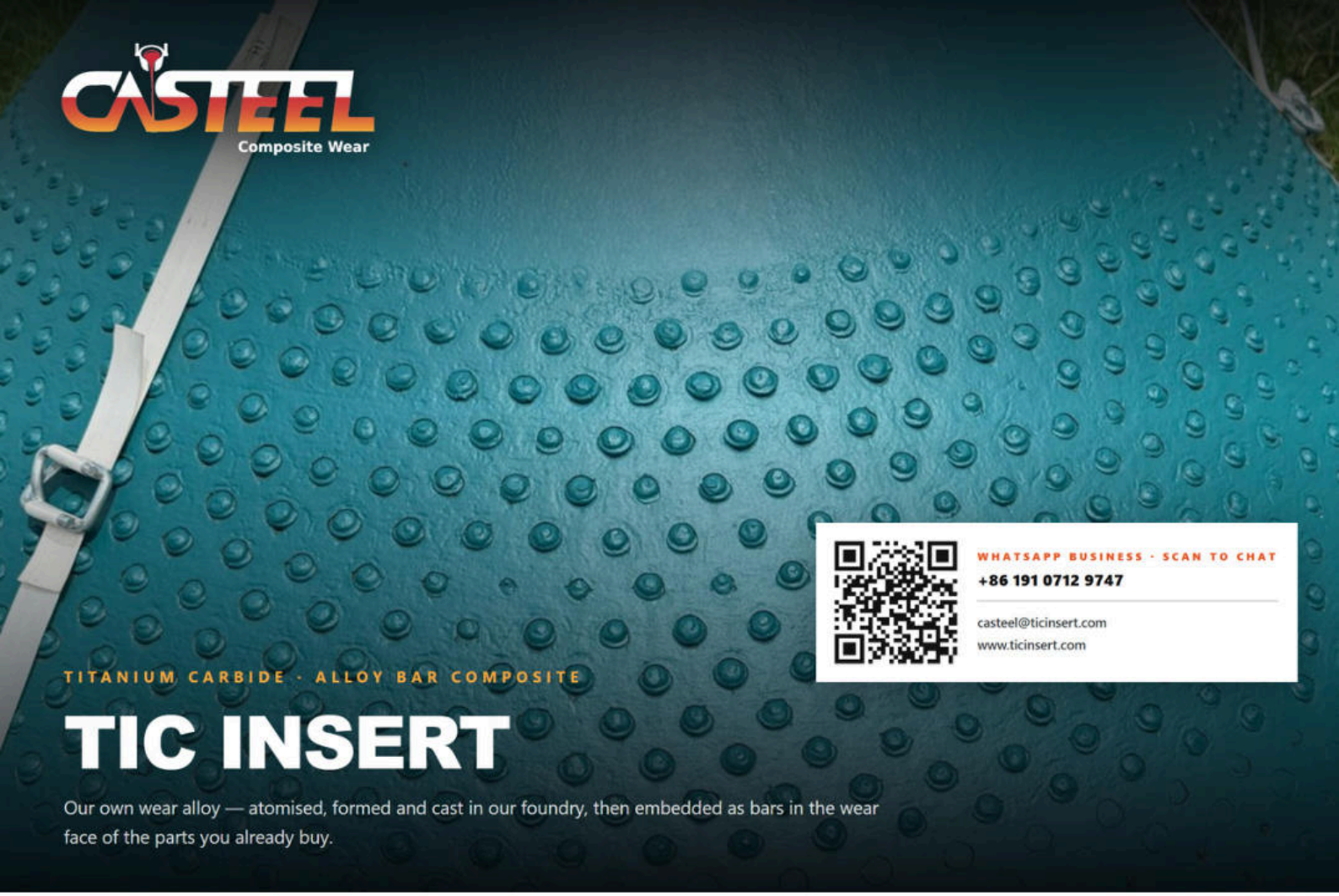


CASTEEL
Composite Wear

WHATSAPP BUSINESS · SCAN TO CHAT
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TITANIUM CARBIDE · ALLOY BAR COMPOSITE

TIC INSERT

Our own wear alloy — atomised, formed and cast in our foundry, then embedded as bars in the wear face of the parts you already buy.

Cast into cone liners, jaw plates and roller shells, the bars and the manganese matrix behave as **one material**. About twice the wear life of plain manganese steel, for 1.5 to 1.6 times the cost.

≈2×	1.5–1.6×	40
WEAR LIFE VS PLAIN Mn STEEL	COST VS THE PLAIN PART	PATENT FILINGS ON THIS LINE

WHY THE ALLOY BAR

01

1.5–1.6× THE PRICE, 2× THE LIFE

Costs 1.5 to 1.6 times a plain manganese casting, delivers about twice the wear life — the extra spend comes back in the chamber, not on the invoice.

02

PROVEN, NOT EXPERIMENTAL

Developed in-house for crusher duty and checked in laboratory tests and running parts. Hardness, toughness and wear life sit in the same class as a typical TiC bar composite.

03

ANY SHAPE, ANY DENSITY

The bars are ours, so shape, size, spacing and density follow your part — not a standard catalogue.

CAST INTO — CONE LINERS · JAW PLATES · ROLLER SHELLS · BOWL LINERS

COST PER TONNE CRUSHED

Roughly 1.5 to 1.6 times the price of a plain manganese part, against twice the wear life. Measured per tonne crushed, it usually costs less.

40	15	5,000+	15,000 MT
PATENT FILINGS	GRANTED PATENTS	REFERENCE IN STOCK	ANNUAL CAPACITY

ALLOY BAR vs TiC BAR

SAME LAYOUT, 75% OF THE PRICE

Take a TiC composite part of the same layout as 100. Our alloy bar composite lands around 75 — wear performance in the same class, and a tougher bar.

ITEM	TYPICAL TiC BAR	CA-ALLOY 60
Alloy bar layout	Same pattern	**Same pattern**
Relative price, same layout	100	**about 75**
Hardness	60–62 HRC	**58–61 HRC**
Bending strength	~1900 MPa	**1940 MPa**
Impact toughness	~8.1 J/cm²	**9.0–12.0 J/cm²**
Density	~6.10 g/cm³	**7.54 g/cm³**
Hard phase in the part	30–50% by weight	**about 1–2.5%**
Preform form	Rod only	**Rod, block or network**
Matrix	High manganese steel	**High manganese steel**

RELATIVE PRICE — SAME LAYOUT AND FITMENT



WEAR FACE AFTER SERVICE

HOW THE WEAR FACE COMES BACK

Parts returned from site service, same duty, two composite systems. Look at the insert sockets: one system loses them, the other keeps the face level.



TM52 — wear steps across the cone face.



TM52 — insert sockets standing open.



TM52 — stepped ring inside the bowl.



CA-Alloy 60 — bar field still level.



CA-Alloy 60 — bar ends flush in every rib.



CA-Alloy 60 — no pull-out at the edge.

Laboratory data for the alloy itself, not field service guarantees. **Patented in China (CN106282835B).** Relative price compares parts of the same layout and fitment; final pricing depends on part weight, cavity and quantity. Photographs are of parts returned from site service; conditions vary by site.

BAR LAYOUT

DENSE BY DESIGN

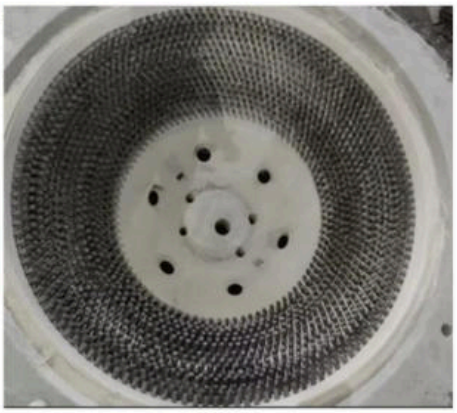
Bars are laid out to follow the wear pattern of each part — and because the bars come from our own plant, the layout runs far denser than a bought-in bar allows.



Jaw-plate mould: rod arrays to the wear profile.



Cone mould: bars ringed where the rock bites.



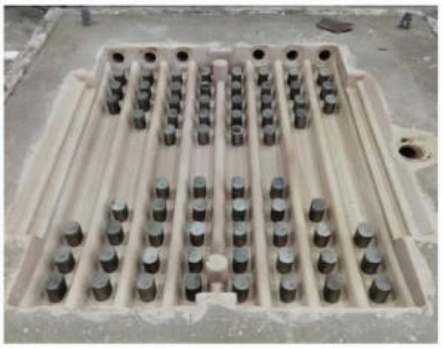
Bowl-liner mould: a dense field across the face.



Ribbed liner mould: a bar pair in every rib.



Rod arrays set in the mould before pouring.



Rod, block and network forms in one layout.

CUSTOMER CASES

FOUR SITES, FOUR DUTY TYPES

Gold ore, iron ore and granite — plus a West Australian mine running TP450.



Gold mine, Shandong — cone liner. Hard, abrasive gold ore; bars worn evenly, none lost. **2.5×** vs plain manganese.



Iron ore, Zhejiang — cone crusher CS660. Bar pattern still follows the chamber, profile not stepped. **1.8×** vs plain manganese.



Granite mine, Fujian — jaw dies. High-silica primary; bars worn level, tooth profile straight. **2.2×** vs plain manganese.



West Australia mine — TP450 liner, returned from service. **2×** vs plain manganese.

NEXT STEP

SEND US A WORN PART.

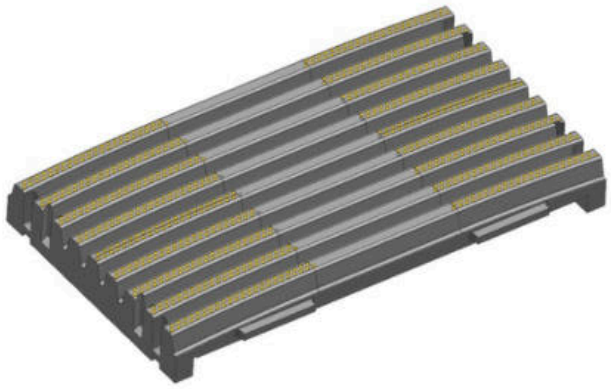
A photo of the wear face and the crusher model is enough for us to propose the bar layout, density and a quote for your chamber.

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THE RANGE IN 3D

FOUR PRODUCTS, ONE INSERT SYSTEM

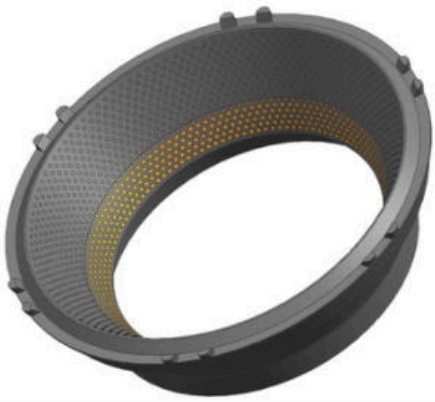
Cast-in titanium carbide rides the working face — the same system in a jaw die, a cone liner, a gyratory segment or a roller.



01 — JAW DIE

Jaw die

Fixed and swing dies for primary and secondary jaws. Inserts ride the tooth crest, so the profile stays sharp instead of rounding off as the die wears.



02 — CONE LINER

Cone liner

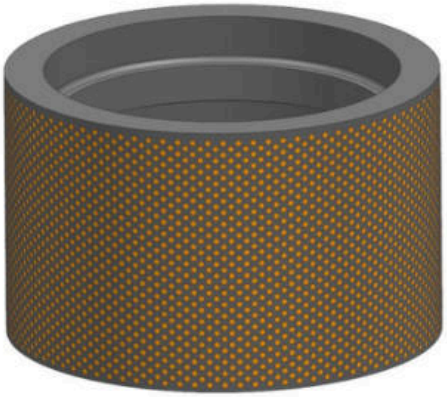
Mantle, bowl liner and concave. The array follows the chamber — densest where the rock is gripped and nipped, open at the feed where there is little wear.



03 — GYRATORY LINER

Gyratory liner

Concave segments for primary gyratories. Row spacing is set per segment from the wear map of the set being replaced, not copied from a catalogue.



04 — INSERT ROLLER

Roller

HPGR roll shell and sizer teeth. Bar rings run across the face where the material bed is compressed hardest, leaving the edges free.

● Orange markers are TiC insert positions, set where the wear map says the metal flows — not spread evenly for appearance.

FORMS

Rod, block or network — chosen by the wear mode, not by habit.

MATRIX

Mn13Cr2 / Mn18Cr2 / Mn22Cr2, or high-Cr iron for impact chambers.

ARRAY

Depth and spacing set per part from the map of the one it replaces.