

CASTEEL
Composite Wear

TOOTH PLATES · CAPS · ROLL ASSEMBLIES

ROLLSIZER WEAR PARTS

We cast a sample, cut it open, and only then pour the batch. This book follows a Sizer Tooth Segment from the first foam pattern to the crate on the lorry.

CASTEEL
EST. 2003 · SHANGRAO, JIANGXI, CHINA

WHATSAPP BUSINESS · SCAN TO CHAT
+86 191 0712 9747

casteel@ticinsert.com
www.ticinsert.com

01 SAMPLING & PROOF 02 CASTING & MACHINING 03 INSPECTION 04 FINISHED & DESPATCH

Before the batch, a trial production sample is cut open.

A new pattern is proved by casting a single plate and cutting test bars from the same heat. Only a piece that survives that gets a production run of sixty-five.



FIRST CASTING, STILL IN ITS SHELL

Straight off the pattern, before the ceramic is knocked away.



TEST BLOCKS, NUMBERED 1–8

Cut from the trial cast and marked, so every result traces back to its own piece.

WHY WE CUT IT

A sound outside means nothing.

Manganese plate fails from the inside out. A shrink cavity under the tooth root only shows up when the plate is already in service and already paid for — so we open one casting and look, before the other sixty-five exist.

WHAT THE PROOF SETTLES

Pattern, gating and feed.

One casting tells us whether the riser feeds the tooth tip, whether the root stays sound, and where the shrink sits — all fixed before the production pattern is cut.

STEP 01

Pattern & one casting

Foam pattern cut to the drawing, one plate poured.

STEP 02

Section & test bars

Cut through the tooth root; bars taken from the same heat.

STEP 03

Batch released

Only after the section is clean does the run start.

FILED PER HEAT	HARDNESS	SECTION	IMPACT	TRACE
Travels with the shipment	Read point, value and operator.	Photographs of the cut face.	Bar count and absorbed energy.	Heat number on the plate.

Then the other sixty-five.

Shakeout, cleaning, stress relief and machining happen in the same plant — so the heat number on the test bar still matches the plate in the crate.



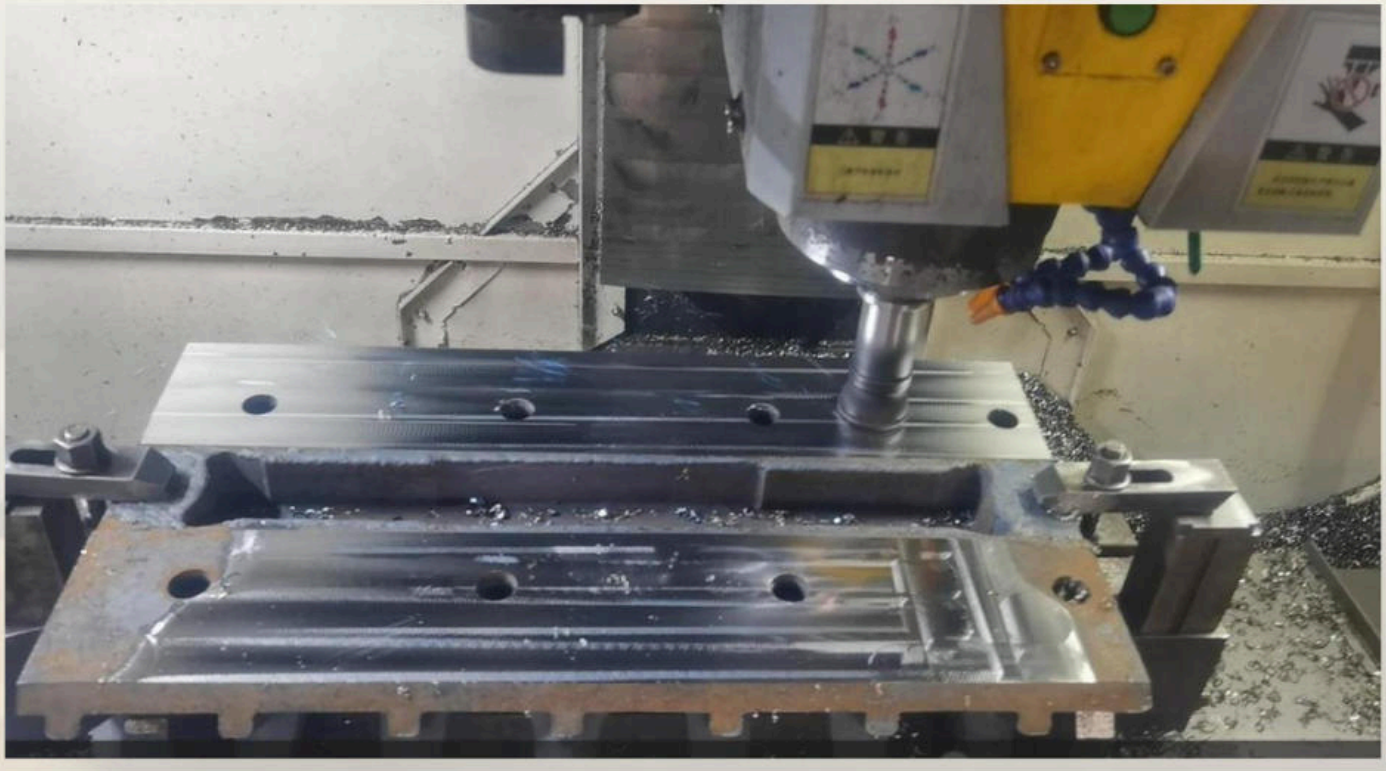
KNOCKED OUT OF THE SHELL

The plate as it leaves the mould, ceramic still clinging to the teeth.



BLANKS, CLEANED

Gates cut and shell removed, ready for stress-relief annealing.



MACHINING

Faces, slots and bolt holes cut on a CNC — one set-up per drawing, so the plate sits flat on the rotor.

ONE HEAT, ONE NUMBER

Nothing gets separated.

Plates from one pour are cleaned, annealed and machined as a group. The bar that was broken and the bar that was tested carry the same number as the plate on the pallet.

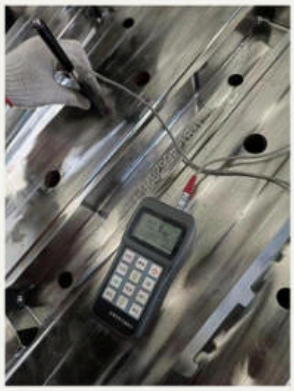
MACHINED TO SIT FLAT

Faces, slots, bolt holes.

One set-up per drawing keeps the mounting face true, so the plate lands on the rotor without shimming — which is the failure most often blamed on the casting.

Measured, broken and dyed — every plate.

Hardness and impact come off the same casting. Penetrant then covers both faces, and a checking fixture proves the bolt pattern before anything is crated.



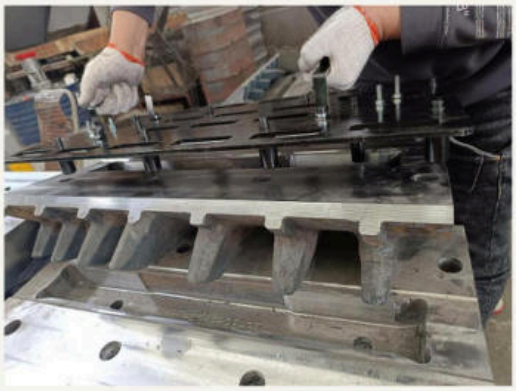
HARDNESS, 52.1 HRC

Read on the machined face.



IMPACT TEST

Bars from the same casting.



CHECKING FIXTURE

Built to the customer's bolt pattern.



PENETRANT, RED DYE

Left to dwell, then wiped: any surface crack keeps the colour.



AFTER CLEANING

No indication along the tooth edges.

FINAL CHECK

Every plate. Both faces.

Penetrant goes on after rough machining and again on the finished part. Results are photographed and filed with the heat number, so a question two years later can still be answered.

A part that will not bolt up is scrap, whatever its hardness. The fixture is the last thing the plate sees before packing.

HARDNESS	IMPACT	PENETRANT	FIXTURE
Read on the machined face — 52.1 HRC on the plate in this book.	10 × 10 × 55 bars from the same heat, broken to prove toughness.	Red dye, both faces, after rough and finish machining.	Plate drops onto fixed studs on the customer's bolt centres.

Counted, paired, crated.

One order, one heat, one inspection file. Machined plates are counted and paired against the packing list before they leave the yard.













AT THE STAND

Bring us a worn part.

A photo of the profile and the sizer model is enough for us to quote the pattern, the grade and a delivery date.

casteel@ticinsert.com
www.ticinsert.com
WhatsApp Business +86 191 0712 9747
Foundry Address: Jinhui Road Yushan, Shangrao City, Jiangxi Province, China