IMTUFF
STEEL FOR TOUGH JOBS

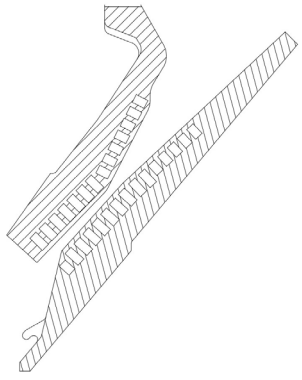
CRUSHCORE
DYNAMICS

## LONG-LIFE TIM CRUSHER LINERS

### TIM CASE STUDY - HP500 TERTIARY CRUSHING - JUNE 2025

| | |
|---|---|
| **Ore type** | Surface volcanic iron ore with copper content; averaging a grade of 17.5% |
| **Proctor scale hardness (f)** | 10-12 |
| **Bulk density** | 1.8t/$m^3$ |
| **Crushing Process** | Tertiary crushing with choke feeding |
| **Feed size** | F80 = 50 |
| **Discharge size** | P80 = 12 |
| **Liner crushing chamber** | Short Head HP500 Metso |
| **Liner installation date** | 2025/04/16 |
| **Liner removal date** | 2025/05/26 |
| **Liner Service Life** | 40 |
| **Throughput** | 350,000 tons (vs 225,000 tons in 18% manganese) |
| **Observations** | ● Liners were removed due to bowl liner worn out and cracked<br>● Mantle could have remained in use for an additional week<br>● Both liners had even wearing<br>● Insert features remain visible in the secondary crushing zone |

**New Liners**





CRUSH CORE DYNAMICS (PTY) LTD.
John Stander: 082 490 3484, john@cruchcore.co.za | Louis van der Merwe: 072 712 8652, louis@crushcore.co.za
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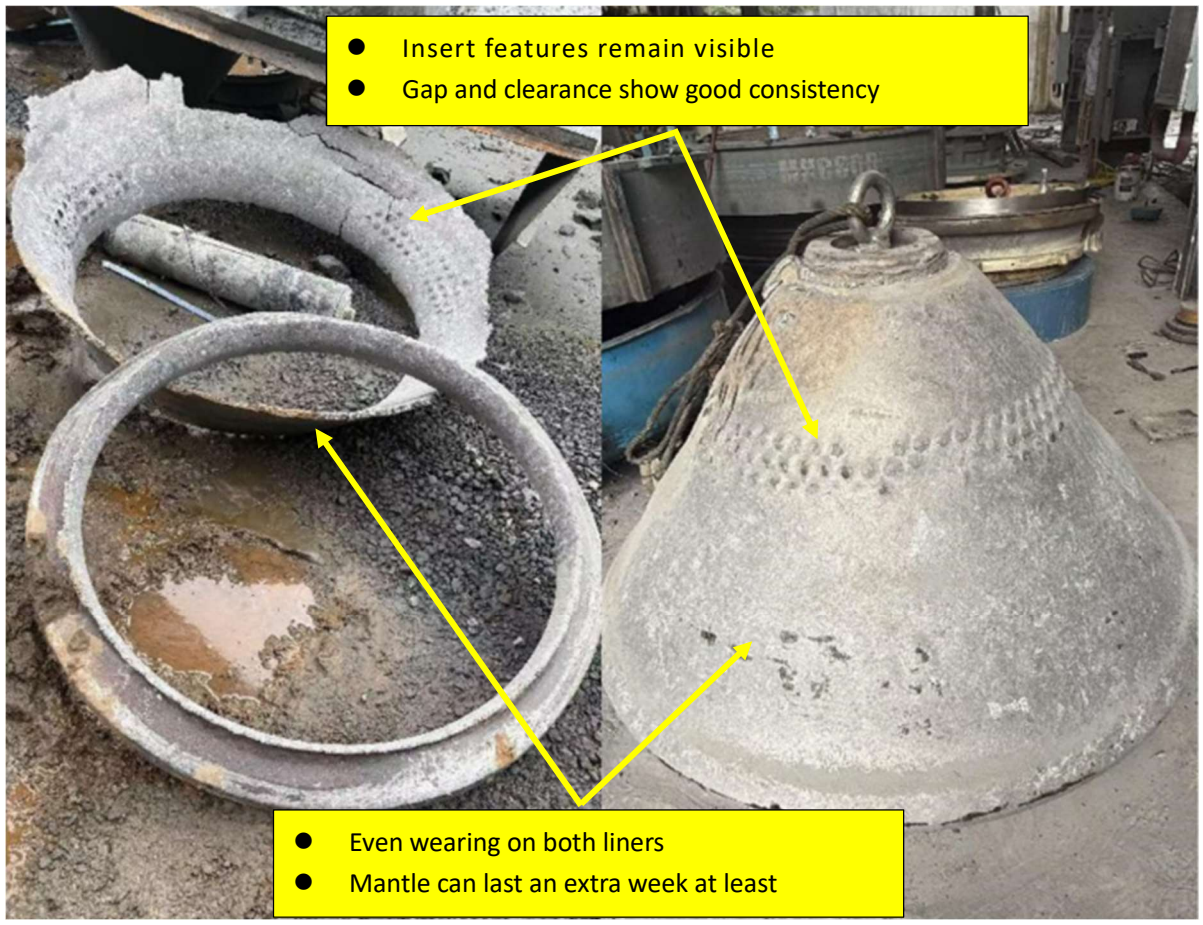
**Used Liners**

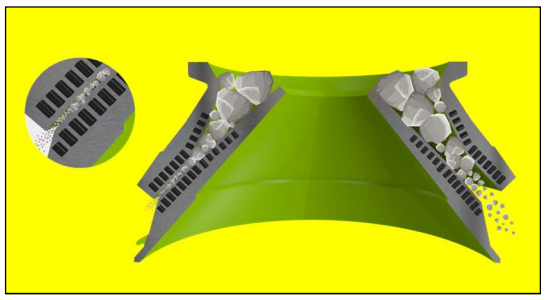



**TIM Optimization**

1. Clearance changed to 10mm at the paralleled crushing zone and 15mm at the secondary zone
2. Bowl liner to be strengthened to achieve similar wearing rate as the mantle
3. Expected throughput is projected at 400,000 to 450,000 tons with the TIM optimization

**About IMTUFF® TIM Liners**

- The IMTUFF® TIM technology was initally launched in 2021 and has been applied to primary, secondary and tertiary crushing applications.
- The TIM liners are machined and pre-hardened as standard manganese liners.
- The manganese hardens more effectively as the inserts absorb and redistribute the crushing stress



*Please contact us if you wish to find out more information*

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TIM has been applied to big crusher liners including Raptor 1100, Metso 5475, ThyssenKrupps 6389 and C200 achieving expected results.


ThyssenKrupp 63-89 Lower Mantle

Raptor 1100 liners

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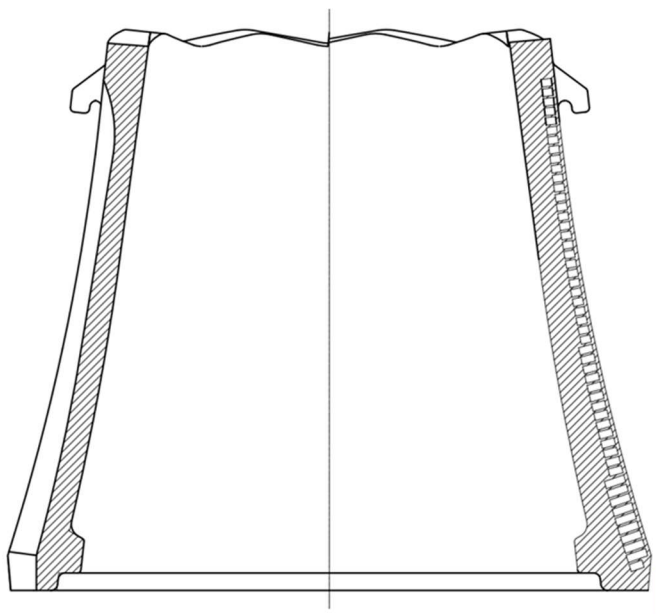

5475 lower mantle

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