

# WA Integra™

## ROLLER PRESS ROLL REFURBISHMENT

### *RPMaxLife* – Shock Resistant Hardfacing



## NEW TECHNOLOGY

The replacement cost of Roller Press Rollers in the cement industry can be considerable. For this reason cement manufacturers often have their Roller Press Rollers refurbished at a much lower cost by means of hardface welding. Typical alloys used to carry out this type of refurbishment are Titanium and Niobium-carbide based welding consumables with various types of buffer layers. Up to now these solutions have been satisfactory, but are not ideal to



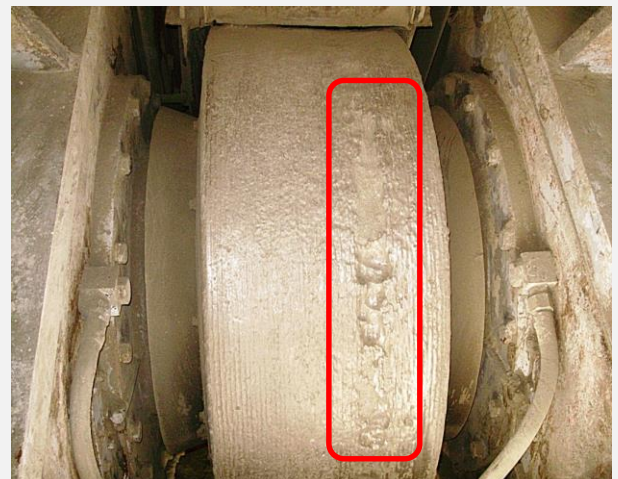
withstand the high demands of the cement industry. In some situations where the rolls are exposed to high impact point loads, surface material can spool from the roller which then has to be repaired to ensure mill efficiency. These failures result in unplanned down time and unnecessary costs, often charged to the mill owner.

The Welding Alloys Group now has materials and procedures which can be applied to Roller Press Rollers of all sizes to ensure a substantially longer roller life without the need for intermediate repairs. **RPMaxLife** was born from intensive field testing with data from industry to back our technology. **With RPMaxLife Technology, WA can ensure maximum plant availability by reducing wear.**

## Why Welding Alloys RPMaxLife?

Welding Alloys **RPMaxlife** Technology:

- Often eliminates the need to replace expensive rollers
- Offers a much lower risk of **cracking** and **wear material loss** with unrivalled **impact resistance**
- Offers improved overall mill efficiencies with increased weld material wear surface durability and reliability giving the cement producer increased productivity at a lower cost per ton
- Is a fully on-site process with no need to disassemble, or transport heavy rollers to an off-site workshop for refurbishment
- Is not just a product, it is a complete **SOLUTION**, from the supply of forgings to machining to welding of the wear protection layer



Typical defects seen on Roller Press Rollers without **RPMaxLife** technology, after some time in operation. These result in unplanned maintenance, downtime and production losses.

## The R*P*Max*Life* Solution

During research it was found that Roller Press Rollers repaired by conventional methods and products such as Titanium and Niobium-carbide based hardface consumables resulted in average life cycles of around 3 500 hours of milling before intermediate wear layer repairs were needed.

After refurbishment with the **Welding Alloys R*P*Max*Life* Process**, the average wear life increased to 6 900 hours without the need for repairs. Some individual field tests have shown wear life cycles of up to 15 092 hours with out the need for repairs and with the rollers still in operation.

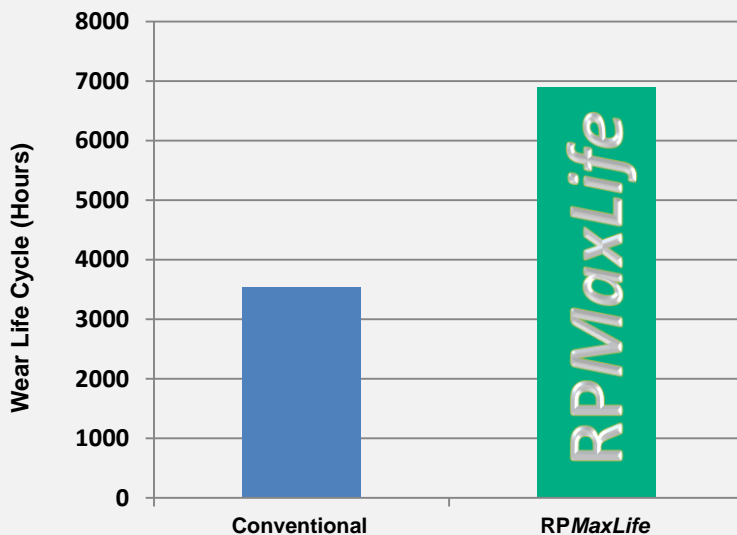


Typical appearance of a Roller Press Roller after refurbishment with the inlay as proof of the crack resisting properties of the buffer layer.

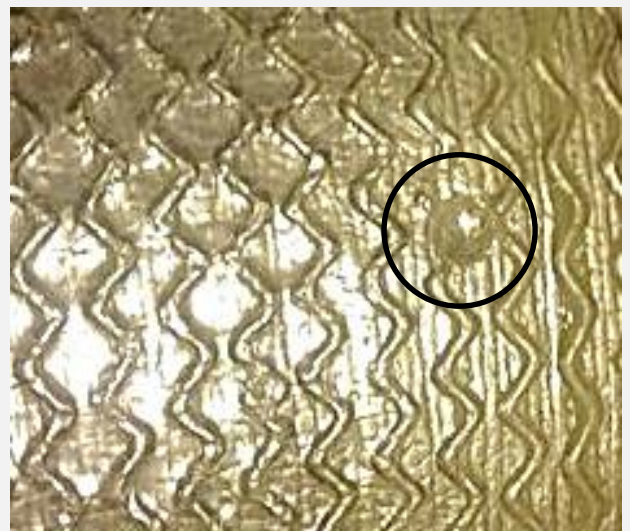


Stress relieve cracks do not propagate into the buffer layer.

The only visible difference between the conventional processes and the Welding Alloys Process is that **R*P*Max*Life*** produces a network of stress relieve cracks, which are **NOT DETREMENTAL** to the performance of the rollers. Due to our improved buffer layer technology, these cracks do not propagate below the wear resistant layers.



Typical Wear Life Increase offered by **R*P*Max*Life*** Roller Press Rollers when compared to components refurbished by conventional materials and procedures.



Evidence of Ball Mill grinding media being fed through a **R*P*Max*Life*** Roller Press Mill. After 4 550 hours, there is **NO** cracking, **NO** hardface spalling, **NO** decrease in mill efficiency and **NO** need for unscheduled repairs.