

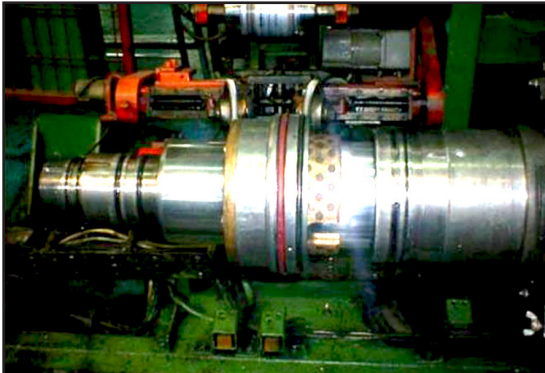
## Challenge

### Issue

A tire manufacturer was experiencing leakage problems on their pneumatic tire building machine used for combining beads, carcass, and sidewalls. The air leaks led to misalignment, quality issues, and scrapped product.

Upon analysis, the PTFE static seals used on the floating piston head were found to have taken a compression set.

Soon after startup, they began to leak and were replaced after an average of 1 month in service.



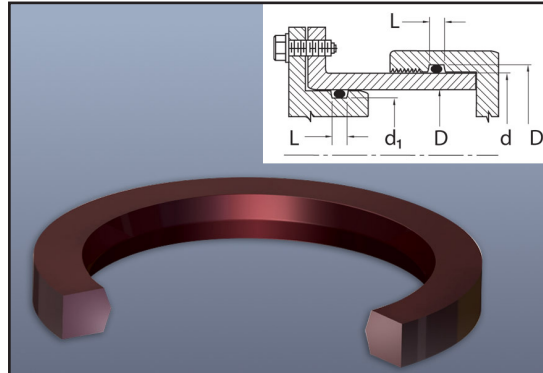
Tire building machine with PTFE static seals.

## Solution

### Recommendation

Chesterton recommended a unique sealing solution that included an upgrade to hardware design and material. The equipment was modified to an optimum size sealing groove for the **20KD** custom static seal.

- **20KD** - Continuous compression seal design for use in static applications and custom made for equipment dimensions, requiring no modifications
- **AWC 800** - Thermoset material has superior wear resistance versus conventional materials and has low compression set, enabling it to maintain sealing force for longer periods.



20KD - upgrade performance of conventional static seals.

## Results

### Improved Performance & Reliability

Although the initial acquisition cost of the Chesterton sealing solution was higher, the O-ring sealing upgrade showed a significant improvement in the equipment performance.

The rebuild cycle was extended from an average of 1 month up to 3.5 months.

**MTBR increased: 3.5X**



Close up view of 20KD installed in hardware.