

# A Hybrid Bearing Approach Proves Itself in Heavy Mining Equipment

■ A partnership with TriStar gives you a competitive edge.



*Recently, a TriStar customer in the mining equipment industry approached us looking for a creative bearing solution to reduce the overall cost of the bearings used in certain critical areas of their machines, and more importantly to eliminate external lubrication in the components*

*This customer makes extremely large, complex equipment, such as dredgers, that handle the heavy lifting of exposing and extracting ore in various types of mines. These are high load, medium speed applications with some restrictions on hardware due to the extreme conditions on site.*

*The existing bearing material at the time was greased [aluminum bronze](#), with a very heavy wall. With hundreds of these mining machines in place all over the world, changes could not be made to the other components – the bearing needed to carry the load [in more ways than one].*

## **A Hybrid Product Was the Best Approach to Maximize Bearing Life and Minimize Cost and Complexity**

Often, TriStar will work with customers to use one substrate material to act as a shell while utilizing a specialized (and more expensive) bearing material as a liner product. Sometimes it can be a simple bonded liner or, as in this case, something mechanically more robust, corrosion resistant, self-lubricating, and capable of high loads/medium speeds.

## **Ultracomp UC200 and FCJ Bearings were Bonded Together to Provide the Ideal Drop-In Solution**

TriStar's engineering team reviewed all the application information and chose to use our [Ultracomp UC200](#) as the supporting substrate to cover about 80% of the wall thickness required. We then incorporated an [FCJ composite](#), thin wall bearing as the dynamic self-lubricating liner.

The end-result was a combination of two very high load materials with a very low-friction liner that can handle up to 400 sfpm dynamically without lubrication.

We're ready to put our engineering expertise to work for you from prototype to production.

Engineering | Custom Fabrication | Manufacturing



## CJ Composite

- Self-Lubricating
- Low weight | High Strength
- Chemical Resistance
- Direct replacement for Bronze



## Ultracomp<sup>®</sup>

- Self-Lubricating
- High Load | Low Speed
- 54,400 PSI Compressive Strength
- Exceptional Resistance to Vibration and Impact



## TriSteel<sup>™</sup>

- Self-Lubricating
- High Load | High Speed
- Metal Backed Bearing System
- 100% Lead Free



## Rulon<sup>®</sup>

- Self-Lubricating
- Low weight | High Strength
- Low Coefficient of Friction
- Chemically Resistant



## Enhanced Materials Division

- Plasma Surface Treatment
- Asymmetric & Symmetric Filtration Membranes
- Specialized Primers & Coatings
- Material ID & Selection



# TriStar



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