



## Summary

<b>Industry:</b>	Food - Prepared Foods
<b>Application:</b>	Labyrinth Seal
<b>Actual Saving:</b>	£n/a
<b>Payback Period:</b>	n/a



## Labyrinth Seal Protects Bearing

Food Processing OEM realises increased uptime and reduced costs

### ISSUE

The customer, a leading supplier in plant for food processing had been experiencing problems on their production rollers. They were using a graphite filled PTFE double lip seal on their production rollers which was lasting from 6 to 9 months. The failure was causing the food product to pass the seals and then contaminate the bearings causing total failure of the roller. The customer had changed the bearings to a molded oil type to try and extend the life past the warranty period. This had only given them a couple of months extension to life. The customer had tried different sealing arrangements prior to this without success and their production roller problem had been ongoing for 10 years.

### SOLUTION

The 8mm diameter shaft material and surface finish was acceptable to run a lip seal configuration and the speed of 3.5 meters per second running for 24 hours a day would be quite demanding. The existing lip seal used was of good quality and it would be difficult to recommend a longer lasting solution. The other problem was that these rollers would run for 24 hours continuously for a month then stop for wash down and maintenance for a week. One possible cause would be the use of a pressure washer cleaning away deposits of food. Other possibilities of the cause of failure were likely to be food deposits becoming dry and cementing between the shaft and the sealing lips through lack of use during the maintenance period. ERIKS examined a failed seal, which had obviously had suffered due to massive erosion from contaminants.

Due to the harsh environment ERIKS recommended that the customer moved away from a lip configuration and tried a labyrinth seal. The main reasons were that the labyrinth seals rubber components were arranged statically on the shaft and bore thus reducing wear to these vulnerable parts. The leak path of food contaminants becomes far more difficult and complicated to reach the bearings. ERIKS approached a sealing supplier and after discussions produced a 'Labtector' manufactured to 8mm x 21.9mm x 8mm in Stainless Steel. These Labtectors have only been on trial a short time but have proved successful.

### OTHER BENEFITS

- Longer life of the seal, resulting in longer life of the bearings thereby reducing costs and increasing uptime

### FURTHER COMMENTS...

Each roller requires 2 seals, and once trials have completed, ERIKS will supply the customer with a further 800 seals.

### MORE INFORMATION

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