



Summary

Industry:	Waste & Recycling
Application:	Specially Designed PTFE Bearing Seal
Actual Saving:	£n/a
Payback Period:	n/a



PTFE Seal Protects Roller Bearing

ERIKS Sealing Technology protects Roller Bearings in Recycling Plant

ISSUE

Recycling has become commonplace in society, from clothes to household plastic and paper rubbish. Recently, due to the replacement of video tape with DVD's, there has been a surge of video tape disposal, as people clear out their unwanted movies. Video tapes are making their way to the recycling plants to be sorted and separated from paper and cardboard.

A problem occurs for the recyclers as the tape inside the cassette becomes unravelled and wraps round anything that it comes into contact with. This tends to happen mainly with the conveyer rollers designed to separate paper and cardboard from the rest of the rubbish. The tape works down the rollers and binds up at each end where the mounting bearings are situated. This causes two problems, firstly the tape gathers so tightly that it forces the metal bearing seal into the rolling elements causing catastrophic failure on a regular basis, secondly the tape gathers and jams causing immense friction and heat. This friction and heat can cause fires, as seen at one recycler in Norwich, resulting in significant damage, downtime and risk of personal injury.

SOLUTION

This required the implementation of a product which would protect the roller bearing and prevent the build up of tape. ERIKS recommended the use of a PTFE disc matching the profile of the external part of the bearing seal. This was then located over the existing bearing seal.

PTFE was selected because its melting point is 327°C and the coefficient of friction is 0.1 or less, which is the lowest of any known solid material. PTFE's resistance to Van der Waals forces means that it is the only known surface to which a gecko cannot stick. The results of the first test which ran for four months were extremely successful with no signs of tape binding or collecting round the roller bearings.

OTHER BENEFITS

- ERIKS have reduced downtime, reduced the risk of damage through jamming and reduced the risk of injury through fire

FURTHER COMMENTS...

The customer plans to complete a final assessment with a view to fitting all the rollers with the solutions and then rolling out across a further three sites.

MORE INFORMATION

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know-how makes the difference

ERIKS