
Case Study

Bag Welding Machine



CERAMICSPEED

44 times longer bearing life & reduction in production shutdowns

The seamer is a part of a filling line that welds together plastic bags with a set of heated jaws. The bearings accommodate the hinge function of the welding jaws.

Problem

This application is demanding due to the sequential running pattern. The bearings never rotate but oscillate 60 degrees back and forth in a hinge-like motion. This sequence mode challenges standard bearings due to the generating of micro pitting, which leads to premature bearing failure.

Result

After implementing CeramicSpeed bearings on this application, the bearing life has increased 44 times. This, along with a reduction in production shutdowns, has allowed the company to reduce its maintenance costs.

Solution

CeramicSpeed bearings are made with ceramic balls and not steel balls, like conventional bearings. These ceramic balls have an increased hardness, which means that the contact area between the ball and the track is reduced, which leads to lower friction, higher potential speeds, and less energy wasted. The hardness and the extremely smooth surface also meant that the balls are far more durable than steel balls.

Technical Highlights

- Rotation speed : > 20 RPM (60 degrees) rotation
- Bearing temperature: 40°C - 50°C
- Suitable for contaminated environment with dust particles

