
Case Study

Linear Carriage and Rails



CERAMICSPEED

3 times longer service life achieved and still running

This automated packaging system is placed at one of Denmark's largest dairies and fits cartons with fresh milk into wheeled cages ready to go directly to the retailers.

Problem

Due to the moist environment and frequent wash downs, the linear components suffered from corrosion issues as well as scarcity of lubricant. The original rails would wear down and become noisy already after 12 – 18 months of service forcing a production stop and an expensive repair operation.

Solution

CeramicSpeed Longlife Corrotec bearings are fitted with FDA approved grease and premium-quality ceramic (Si₃N₄) balls which are 2 times harder than steel, 4 times smoother and need much less lubrication. CeramicSpeed hybrid bearings have a much lower friction coefficient which reduces bearing temperatures and power consumption.

Result

As the ceramic balls will never corrode, the production stops costed by bearing failure has now been eliminated, and further the contact between the smooth ceramic balls and the steel rail causes much less wear than the traditional steel/steel contact, which prolongs service life of both parts of the system dramatically. The first CeramicSpeed upgrade that was installed is still in service after now 6 years of operation.

Technical Highlights

- Slow reciprocating movement
- Bearing temperature: 4°C-8°C
- Lubrication: Food grade oil
- Environment: Low temp., high moist

