
Customer reference case

Metals industry – zinc production

Extraction fan

SKF Xtra Power Belts



SKF Xtra Power Belts reduce unplanned downtime in zinc extraction fan

A fan used to extract zinc-dust from a stocking warehouse was failing prematurely due to problems with a belt drive. By installing a new SKF Xtra Power Belt, fan service life was significantly extended.

Rezinal is Europe's largest secondary zinc producer, and one of the global leaders in its market. A recycler of galvanizers' ashes and old roofing zinc, the company separates the metal from oxides and impurities, resells the oxides, and remelts and casts the zinc for resale.

Challenge: fan reliability

In the Rezinal stocking warehouse, an extraction fan is used to remove zinc dust from the air. The fan operates in an extremely harsh environment and runs 24 hours/day, 7 days/week. These conditions led to reliability problems with the fan's belt drive. The standard belt life was approximately 3 months on average. Rezinal tested a high-performance belt in the application and improved belt life to roughly 8 months. Despite the improved performance, the company remained unsatisfied with the fan's frequent maintenance requirements,

because maintaining a ceiling extraction fan is difficult and expensive.

Solution: SKF Xtra series belts

SKF recommended the installation of test belts from the new SKF Xtra Power Belt series. Designed to deliver up to 40% more power than standard wrapped belts, these power belts offer drive efficiency of up to 97%, providing smooth running behaviour, low vibration levels and resistance to shock loads. The belt's performance advantages result from an innovative design which includes homogeneous, coordinated integration of the belt, flank and pulley groove, and an optimized cover fabric.

Tension members for SKF Xtra Power Belts are polyester coated, to accommodate heavy tension loads with minimal elongation. A fibre filled compound that encases the tension cords enables the belts to accommodate higher dynamic loads without compromising flexibility. The cover fabric provides excellent wear and abrasion resistance while



providing excellent bending strength. The antistatic cover fabric is oil and heat resistant. In addition, the belt offers a one-shot tensioning design which requires no retensioning after the initial run-in period.

Result: Extended belt life, improved fan reliability, reduced maintenance

The new SKF Xtra series belts were installed along with SKF pulleys and bushings in April 2008 with an initial tension of 140 kg. After two retensioning rounds, the tension values dropped to 130 kg and remained constant at this level. Because this value is still above the 112 kg that a run-in SPC belt is expected to have, no further retensioning was required. In November 2008, one belt was showing some wear. However, the cords and the backing fabric remained undamaged. In May 2009, the belts were still running without any signs of failure or further deterioration. The test was running for 13 months showing very positive results. Rezinal is now using the SKF Xtra series belts as the standard in their zinc extraction fans.

Customer benefits

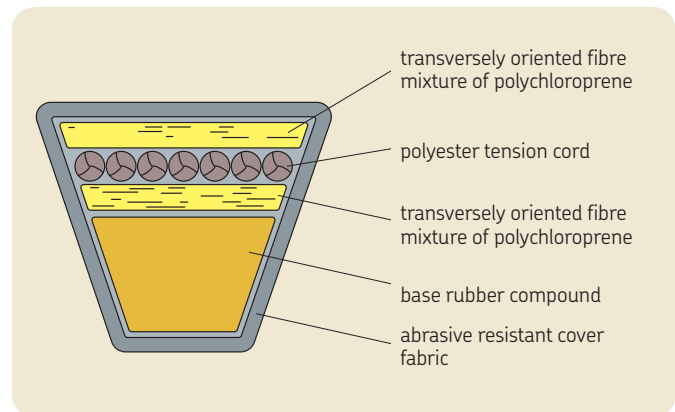
- Increased fan reliability
- Extended service life
- Increased productivity
- Decreased maintenance and repair costs

Operating conditions

- A fan driven by an electrical motor (75kW) running at 1325 r/min
- Running time 24/7/365 in harsh conditions (zinc dust)

Commercial outcome

- Increase in service life (from 6 to 13 months)



A fiber-filled compound above and below the tension members allows SKF Xtra Power Belts to carry higher dynamic loadings with no compromise of flexibility and full support of tension cords.

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