

Success Story

Industry: Automotive Production

Application: Tyre Manufacturing

Cost Savings: € 99 128

Introduction

A Tyre manufacturer was having high replacement costs due to frequent ball screw failure in the air drum of a tyre building machine. This was a costly problem with increased maintenance and downtime affecting productivity. NSK analysed the problem and found that the quality and specification of the existing ball screw was not sufficient for the loads within the machine. By introducing a higher specification NSK Ball Screw life time was extended, increasing uptime and efficiency whilst reducing unplanned failures.

Key Facts

- Automotive Tyre Manufacture
- Maintenance problems with existing ball screw design
- NSK conducted failure analysis and a machine design review
- Trial of NSK ball screw proved very successful and technical approval was granted
- Service life increased by 50%
- Resultant increased efficiency and reduced maintenance costs



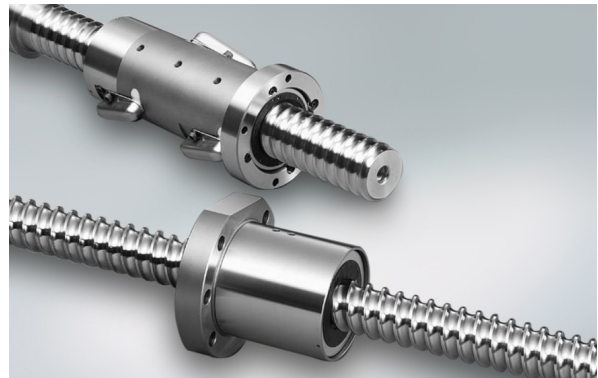
↑ Tyre manufacturing

Value Proposals

- Machine application review
- Failed Ball Screw analysis showed poor quality and reduced load capacity
- NSK HTF Ball Screw trial proposed
- Approval by customer resulting in increased Ball Screw performance

Product Features

- A special ball screw groove profile together with grease retaining A1 seal
- Contact seals prevent grease contamination and achieve a clean environment
- Equipped with SRC (Smooth Return Coupling), or end deflector recirculation system, which picks up balls smoothly in the direction they are moving
- A1 seal greatly improved grease retaining performance
- A1 seal suppresses grease scattering
- A1 seal simplifies the design of your cover, helping to preserve a clean and healthy environment.
- Longer maintenance intervals



↑ HTF Ball Screw

Cost Saving Breakdown

| Before | Cost p.a. | NSK Solution | Cost p.a. |
|----------------------------------------------------------------------------------------------------------------|------------------|-----------------------------------------------------------------------------------------|-----------------|
|  Ball Screw pieces per year | €151.212 | NSK Ball Screw pieces - New design helps reduce purchases by nearly two thirds per year | €52.084 |
| Total Costs | € 151 212 | | € 52 084 |