

## **Tsubaki conveyor chain leads to long term cost savings and efficiency for commercial bakery**

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Producing high quality, consistent baked goods in a batch production requires precise and reliable processes and equipment. For one bakery, the industrial oven it used for producing pre-baked bread rolls required new conveyor chain every two years due to excessive wear. This was an expensive and time-consuming operation that affected the bakery's production targets. Fortunately, Tsubaki's expert engineers were able to recommend a specialised chain product that more than doubled service life.

Almost every village in France still has its own boulangerie, a bakery handed down through the generations of a family of master craftsmen. Today, their bakers combine tradition with technology to ensure the very best end products.

In bigger towns, larger scale bakeries also apply high standards as they work to supply supermarkets across their region. They won't sacrifice quality, so rely on technical solutions with their plant, equipment and processes to achieve the efficiency and cost management they require.

One bakery decided to review its costs and procedures to ensure that its production line was performing to the highest standards. It quickly identified that the tunnel oven used to produce pre-baked bread rolls was requiring a shut-down period for replacement conveyor chain every 1.5 to 2 years. The replacement process required a complete de-mount of the machine, which resulted in expensive maintenance bills.

The question that inevitably arose was: “Can we improve the service life of the chain?”

Tsubaki was contacted and its engineers were soon on site to assess the application. The average temperatures experienced by the chain throughout the oven cycle was 240°C (peaking at 300°C), which was causing the inside of the rollers to wear and the chain to fail earlier than expected. Tsubaki identified that chain designed for operation in hard wearing environments, combined with a specialised lubrication system, could significantly extend the gap between replacement and reduce the Total Cost of Ownership of the oven at the same time.

The engineers recommended an engineered solution from its large size conveyor chain catalogue that featured heat treated rollers and bushes to ensure smooth interaction, even at high temperatures. The chain has been built for strength and performance to cope with regular loading and delivers stable performance. In this case it was suggested that the bakery lubricate the chain with a specialty food-grade lubrication formulated to be stable in very high temperatures. This is dispensed through an electrically operated gear pump, that is synchronised with the speed of the chain to ensure that an optimised coating is always maintained.

With the new chain installed and the updated lubrication system in operation it wasn't long until the bakery's maintenance staff started to notice the difference in performance. Where the chain would usually start to show signs of wear in a few months, the new chain was visibly harder wearing than the incumbent. In fact, the chain proved to offer more than twice the reliability – eventually reaching a service life of over five years. The resulting reduction in periods of non-production has been a significant benefit to the Total Cost of Ownership of the chain, which reflects directly onto the bakery's bottom line.

**Image captions:**



**Image 1:** Tsubaki suggested that the bakery lubricate the chain with a specialty food-grade lubrication formulated to be stable in very high temperatures. (Image Source: iStock – SHODOgraphy: ID:960011886)

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## About Tsubaki

Established in 1917, Tsubakimoto Chain Company is the world's premier manufacturer of power transmission products with strong market positions in premium quality industrial drive & conveyor chains and associated power transmission components such as cam clutches, reducers & linear actuators. With a turnover exceeding \$1,5 Billion US Dollars & 6,500 employees, the Tsubaki group includes 41 manufacturing locations and 81 group companies worldwide. Our production and sales networks are now more developed than ever.

Tsubakimoto Europe B.V. serves Power Transmission customers in the Pan-European market, Africa and the Middle East from European headquarters located in Dordrecht, the Netherlands, along with a local subsidiary based in Nottingham, serving the UK market & Ireland and from the office in Ismaning, Germany customers in Germany, Austria and Switzerland are served. Customers in Spain and Portugal are served by our office in Madrid, Spain.

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