



ISSUE:

Roller chain wearing too quickly

GOAL:

Improve chain wear life and decrease product costs

SOLUTION:

Replace current chain with Diamond DustStopper chain

COST SAVINGS:

\$10,000 in savings after one year per line

Background:

A large Midwest tomato processor was seeing limited service life from roller chain used on a case packing line. The chain's path of travel through the machinery made access for preventative maintenance a challenge while limited space underneath prevented the installation of an automatic lubricating system.

The company was looking for an upgrade that would extend the life of the roller chain beyond the six weeks they were currently getting.

Challenge:

An assessment of the packing operation determined that a combination of issues was creating the shortened service life.

While lack of regular lubrication was a contributing factor, two steps in the shipping process were indirectly causing the most damage. Tomatoes ready for shipment were placed in retail packages, stacked, and then pushed into corrugate shippers. As the containers were pushed into the boxes, contact between the container and the box stirred up corrugate dust. An automatic sealing system would then apply glue to the cartons.

As the corrugate dust and glue mixed together in the air, it would settle and stick to the packaging machinery, including the roller chain. By stiffening joints, wicking away and drying up lubricant, the dust and glue was the cause of the chain's premature failure.

Choices:

To increase the service life of the roller chain, two issues had to be addressed – lubrication and contamination. While standard maintenance-free chain would address the lubrication issue, it would not solve the glue and dust contamination issues.

A better option was Diamond Chain's DustStopper™ series. Diamond's Dust Stopper combines the benefits of a maintenance-free chain with the benefits of an o-ring chain which prevents contamination from entering the pin bushing area.

Results: Initially, one of the four packaging lines was converted from the existing standard carbon steel roller chain to Diamond's DustStopper series. While the existing roller chain was lasting around six weeks, the DustStopper chain ran for thirty-six weeks for a one year savings of nearly ten thousand dollars per line. The remaining three lines have since been converted to Diamond Chain's DustStopper.

