



# PROBLEM SOLVED™ PAPER

**SOLUTION:** Total Solution™ Conveyor Retrofit

**INDUSTRY:** Sodium Carbonate

**LOCATION:** Kazan Soda Elektrik Uretim A.S., Ankara, Turkey



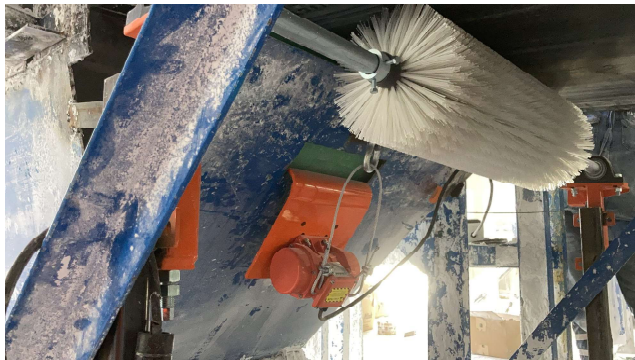
Fine dust would easily escape through openings in the enclosure, filling the area and settling on surfaces.

## PROBLEM

Kazan Soda Elektrik Uretim A.S., located in Ankara in Central Turkey, processes 2.5 mil tonnes (2.76 mil tons) of dense soda ash and 200,000 tonnes (220,500 tons) of sodium carbonate annually. Conveyed on a 1000mm (39 in.) wide belt, the light chalky substance is a temperature of 50°-60° C (122°-140° F), creating large amounts of dust and spillage. The main transfer point lacked adequate sealing and belt support, leading to excessive spillage and airborne dust emissions. Moreover, the single primary cleaner at the discharge zone was not fully clearing the belt, causing carryback and dust to be loosened along the belt's entire return path. To improve safety and efficiency, managers sought to update the system.

## SOLUTION

Representatives from Martin Engineering Turkey examined the area to offer a solution. In the transfer point, technicians installed a Martin® Impact Cradle, ApronSeal™ Skirting, and a Torsion Arm V-Plow. The cradle has smooth energy-absorbing impact bars in a sealed enclosure, rather than rollers, reducing dust. The plow system cleared fugitive material from the return side of the belt. At the discharge zone, the old equipment was replaced by a QC1 HD Primary Cleaner with Twist Tensioner, a secondary Brush Cleaner, a Vibrating Dribble Chute, and Upper & Lower Belt Trackers™. The primary cleaner's modern curved design cleared the belt while the brush dislodged fines from cracks. The trackers kept the belt in line and the dribble chute ensured flow.




A brush cleaner controls any fines trapped in cracks and divots in the belt from carryback, reducing dust.

## RESULT

The retrofitted redesign drastically reduced the amount of airborne dust and spillage around the transfer point. Operators report there was a considerable improvement after the transfer point products were installed. This made the area safer to work in and reduced the amount of labor needed for cleanup. Now, the conveyor is cleaner, safer and more productive. "That is the most effective conveyor project we've ever had," said an operator close to the project. "We are going to replicate it on other conveyors once we've secured the budget." Martin continues to work with Kazan Soda Elektrik Uretim A.S. on other projects.



The impact cradle ensures material a soft landing and centered settling, with less dust-causing shifting. 

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