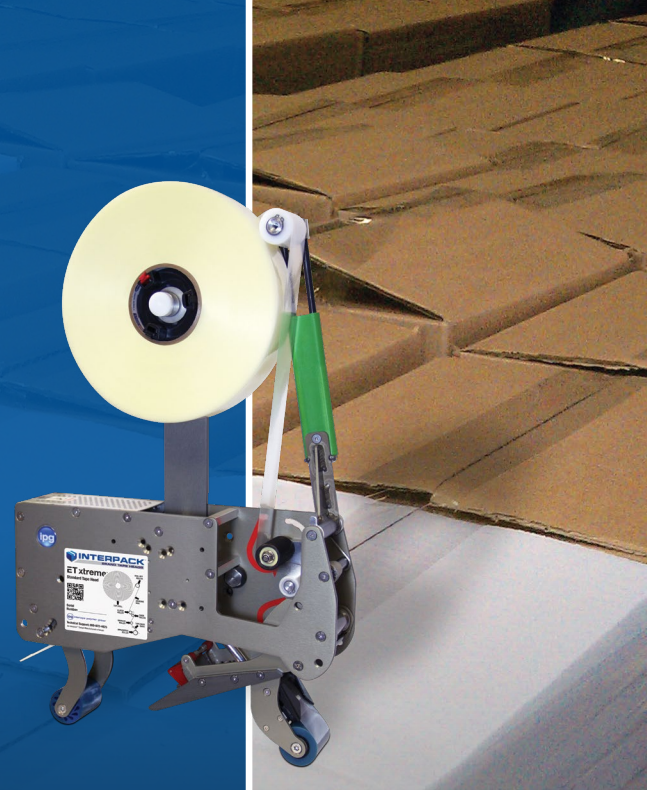
CASE STUDY

FOOD & BEVERAGE MANUFACTURER ACHIEVES CARTON SEALING SUCCESS WITH 74% GREATER ADHESION STRENGTH.



Customer Overview

A leading food and beverage manufacturer was experiencing carton sealing challenges on a high-speed packaging line. The company sought to improve seal integrity, reduce packaging failures, and identify a more reliable and cost-effective carton sealing solution.

Inconsistent seal performance

Maintain cost & performance

The Challenge

Small carton sizes on the customer's production line were experiencing inconsistent seal performance, creating concerns around package integrity and overall operational efficiency. The customer needed a solution that could provide stronger, more dependable seals while maintaining productivity and controlling costs.

Proposed Solutions

IPG conducted an Adhesion Force to Kraft (AF2K) performance evaluation to compare the customer's existing carton sealing setup against several alternative sealing solutions. Testing was performed using four cartons of the same size on the customer's packaging line. The first test utilized the customer's current configuration, consisting of a standard tape head paired with a pressure-sensitive carton sealing tape. Three additional tests were conducted using the IPG ET Xtreme® tape head combined with the existing 1.8 mil carton sealing tape and IPG's 1.9 mil 7100 and 2.05 mil 7205 hot melt carton sealing tapes. To ensure consistency, each carton was processed through the case sealer and allowed a standardized 15-minute dwell time before evaluation. Seal strength was measured by determining the force required to break the bond between the tape and the carton. IPG also proposed a supply agreement that included complimentary tape heads, installation support, and operator training to simplify implementation and provide long-term value.



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Results

Using the IPG ETX tape head, seal strength increased from 15.42 lbs to 26.78 lbs, delivering a 74% improvement and 11.36 lbs of additional holding power. Testing with IPG's 7100 and 7205 hot melt tapes resulted in carton sidewall failure before adhesive failure, demonstrating bond strength beyond the box itself. The evaluation also identified the existing 1.8 mil tape paired with the ETX tape head as the most cost-effective solution while helping reduce costs associated with carton failures, rework, damaged product, and shipping exceptions.

$ ***Operational cost savings***

74% ***Stronger seal***

11.4 lbs ***More bond strength***

100% bond maintained



"The combination of the IPG ETX tape head and recommended carton sealing tapes delivered a noticeable improvement in seal strength, giving us greater confidence in package integrity and overall line performance."

Conclusion

IPG's AF2K evaluation identified a carton sealing solution that improved seal strength by 74% while reducing the risk of failures, rework, and shipping damage. The results gave the customer confidence in selecting a reliable, cost-effective carton closure solution.

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