

Case Study: Transition from Bulk/Bi-Pak to Pre-Mixed Frozen (PMF)

Meridian Product – 353ND-T



Introduction

A leading company in the telecommunications industry has been successfully using Epo-Tek® 353ND-T for its adhesive needs. While the product itself performed well, the customer encountered several quality and efficiency challenges due to the packaging of the two-part adhesive in bi-paks. After understanding the challenges, application experts at Meridian Electronics Division suggested a transition to the 353ND-T Pre-Mixed Frozen (PMF) syringe. This case study explores the problems faced with the bi-pak system and the benefits realized through the switch to PMF, highlighting how this change has streamlined their processes and improved overall product quality.



Customer's pain points

The customer used the bi-paks to mix the two parts, followed by loading the adhesive into a syringe, and dispensing as needed. Below are the challenges faced by the customer

- Complicated 5-step process – Open the bi-pak, break the seal, mix inside the pouch, load the syringe, and dispense using the syringe – leading to suboptimal throughput and potential of operator error.
- Transferring material from bi-pak to syringes resulted in wastage.
- Inability to eliminate trapped bubbles formed during the syringe filling step due to inadequate in-house degassing equipment led to quality challenges
- Additional demand and supply management of empty syringes along with the adhesive bi-paks.
- Customer had to buy off the mixed material's viscosity on their own with viscometer.



Meridian's solution

How switching to pre-mixed frozen syringes benefited the customer:

- Streamlined, optimized process by moving from a 5-step process to a 2-step process of thawing the PMF and dispensing on target substrate.
- Improved batch-to-batch consistency in adhesive mixing, its rheology, and dispensing processes due to the elimination of (1.) inefficient mixing in bi-pak; (2.) potential of bubble formation; (3.) potential loss of material due to imperfect transfers; and (4.) risk of operator error. This resulted in overall improvement of the product quality and customer satisfaction.
- Improved supply chain by eliminating management of empty syringes.



Conclusion

Though bi-paks are preferred in many situations, particularly where pre-weighed consistency is crucial. In this case, switching from bi-pak to PMF has significantly improved the customer's production efficiency and product quality. Meridian's application experts were able to understand the problem and suggest an adhesive solution that goes beyond just adhesive chemistry. The customer now enjoys faster, more reliable adhesive solutions, ensuring their projects stay on track and meet high-quality standards.