

Case Study:

Medical Polyurethane
Foam Liner



Creating Release Liner Solutions

“Adhesives Research (AR), quickly provided a liner solution to a long standing problem for a customer”

Case Study Background:

A medical foam manufacturer whose product is sold to a major wound dressings original equipment manufacturer (OEM) approached AR for a solution to challenges experienced with their silicone release liners.

At the time, the medical foam manufacturer was a secondary supplier with comparatively low volumes, but aspired to become a primary supplier producing large quantities of cast polyurethane foam for that OEM and other customers. By seeking out AR, they hoped to reach these goals.

Benefits:

The release liner was tested and qualified within weeks. The customer also gained new sales and expanded their product line over five times in a short period.

Contact Us:

To discuss your next Release Liners project
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The Problem:

The manufacturer casts their foam on a siliconized polyethylene coated kraft liner that serves as the easier releasing side, then laminates a tighter film liner on top. This sandwich is then sent through a convection oven for curing and the bottom side kraft liner is removed (and rewound to be re-used). The cast foam and top liner is then rewound, slit and spooled. They were experiencing release liner confusion, with the cast foam intermittently staying on the bottom easy release liner when it should come off cleanly from that liner. The kraft paper was also prone to tearing during stripping and could not be re-used due to its weakness.

AR's Release Liner Solution:

Within a day of establishing the design requirements with the customer, Adhesives Research's R&D group sent sheet samples of the "best few" liner options likely to meet their design requirements. After testing at the customer's lab and a subsequent visit to their production site, AR produced trial rolls of the top 3 candidates on production equipment and sent those to the customer within 2 weeks. Several repeatability trials took place over the next 2 months and finally a 5 mil PET (polyester) film liner was selected. The release force and surface texture remained consistent with no defects throughout all subsequent scale-up and production runs. After demonstrating AR's ability to produce a defect-free, consistent release liner, the customer's OEM client awarded them the status of a primary supplier and required them to start supply with one week's notice. This led to immediate demand for large production volumes from Adhesives Research and the AR Operations and Quality teams were able to support the customer's need in just 3 weeks, enabling the customer to meet their commitments.

Design Requirements:

AR was initially asked to provide a liner that matched the release force of the customer's kraft liner, but afforded a more consistent release and was stronger (less prone to tearing). During the course of interaction with the customer, it became apparent that they also required the liner to impart a smoother, glossy texture to the foam, and be able to reuse the liner 5 times.

Outcomes:

The medical foam manufacturer grew their revenues significantly as a result of a multi-fold growth in demand from their OEM customer. AR's liner enabled them to improve plant efficiency and reduced total cost since they were able to reliably reuse the PET liner up to 5 times. In addition, the liner enabled the customer to develop similar products for other OEMs as well as for their own product line.

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