Case Study

Automotive Seating

Summary: Acme Mills partnered with a leading automotive manufacturer to enhance vehicle seating by introducing Dymetrol®, an innovative suspension fabric. This collaboration aimed to improve passenger comfort, reduce seat weight, and increase design flexibility, aligning with the industry's evolving standards and consumer expectations.

Project Specifications

- **Material Supplied:** Dymetrol® suspension fabric, a 100% woven polyester material known for its durability, recyclability, and lightweight properties.
- **Application:** Integrated into the vehicle's seating to replace traditional components such as springs, wires, clips, and reduce the amount of polyurethane foam used.
- **Quantity:** Sufficient material provided to outfit the seating across multiple vehicle models within the manufacturer's lineup.
- **Delivery Schedule:** Coordinated with the manufacturer's production timeline to ensure seamless integration without disrupting assembly operations.

Capacity and Scalability

Acme Mills demonstrated the ability to scale production efficiently, accommodating the automotive manufacturer's large-scale requirements within the agreed timeline. The company's advanced manufacturing capabilities enabled it to handle substantial orders while maintaining stringent quality standards.

Automotive Seating - PDF Content

Manufacturing Details

MATERIAL SELECTION AND PREPARATION

Dymetrol® is produced using high-quality polyester fibers combined with DuPont's Hytrel®, creating bond points that act as mini springs.

PRODUCTION PROCESS

Weaving: Utilizes a sateen weave to achieve the desired strength and flexibility.
Heat Setting: Bond points are heat-set to ensure uniformity and durability.
Customization: Fabric is tailored to specific widths and lengths to meet the automotive seating design requirements.

QUALITY CONTROL

Material Testing: Conducted tensile strength and durability tests to ensure performance standards are met.
Visual Inspection: Checked for defects such as uneven bonding or impurities.
Dimensional Checks: Verified fabric dimensions to match the manufacturer's specifications.
Lot Tracking: Implemented batch numbering for traceability and quality assurance.

ACME MILLS
World Class Textile Solutions

Automotive Seating - PDF Content

Uses and Applications

Dymetrol® offers several advantages in automotive seating applications:

ENHANCED COMFORT

Provides a supportive and comfortable seating surface by evenly distributing weight and reducing pressure points, leading to a more pleasant driving experience.

WEIGHT REDUCTION

Eliminates the need for heavy metal components and reduces foam usage, contributing to overall vehicle weight reduction and improved fuel efficiency.

DESIGN FLEXIBILITY

Allows for innovative seat designs, including thin-profile seats that maximize cabin space and meet modern aesthetic standards.

DURABILITY

Constructed with a sateen weave of polyester yarn and DuPont's Hytrel®, ensuring long service life without deformation, sagging, or creep over time.

SUSTAINABILITY

Allows for innovative seat designs, including thin-profile seats that maximize cabin space and meet modern aesthetic standards.

Through the integration of Dymetrol® suspension fabric, Acme Mills successfully enhanced the automotive manufacturer's seating by improving passenger comfort, reducing seat weight, and allowing for innovative design solutions. This collaboration underscores Acme Mills' commitment to providing high-performance, sustainable materials for the automotive industry, contributing to operational efficiency and customer satisfaction.

Contact Acme Mills

Need assistance in maximizing manufacturing efficiencies to ensure quality and optimize costs? Call or email us today and one of our skilled team members will lead the way. (800) 521-8565 ~ info@acmemills.com