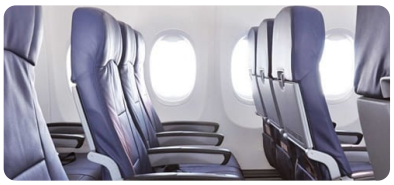
Case Study

Aerospace Seating

Summary: Acme Mills collaborated with a leading airline to enhance their seating solutions by introducing Dymetrol®, an innovative suspension fabric. This partnership aimed to improve passenger comfort, reduce seat weight, and increase design flexibility, resulting in significant operational benefits for the airline.

Project Specifications

- **Material Supplied:** Dymetrol® suspension fabric, a polyester-based material known for its durability and recyclability.
- **Application:** Integrated into the airline's seating to replace traditional components such as springs, polyurethane foam, wires, clips, and insulators.
- **Quantity:** Sufficient material provided to retrofit the seating across the airline's fleet.
- **Delivery Schedule:** Coordinated with the airline's maintenance schedule to ensure timely installation without disrupting operations.



Capacity and Scalability

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

Aerospace Seating (cont'd)

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 spring sets.

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 airline's 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 airline's specifications.
Lot Tracking: Implemented batch numbering for traceability and quality assurance.

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Aerospace Seating (cont'd)

Uses and Applications

Dymetrol® offers several advantages in airline seating applications:

ENHANCED COMFORT

Provides a supportive and comfortable seating surface by evenly distributing weight and reducing pressure points.

WEIGHT REDUCTION

Eliminates the need for heavy metal seat pans and bulky foam, contributing to overall aircraft weight reduction and improved fuel efficiency.

DESIGN FLEXIBILITY

Allows for innovative seat designs, including thin-profile seats that maximize cabin space.

DURABILITY

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

SUSTAINABILITY

Made of 100% recyclable polyester, reducing environmental impact and minimizing the use of non-recyclable materials.

Through the integration of Dymetrol® suspension fabric, Acme Mills successfully enhanced the airline'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 aerospace industry, contributing to operational efficiency and passenger 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. (248) 232-2649 ~ info@acmemills.com