



Case Study

Custom Flame-Retardant Fabric for Automotive Seating Systems



Summary: Acme Mills is collaborating with a leading global supplier of automotive seating systems to deliver customized Dymetrol Fabric FR CS200 for use in high-performance seats for motorcycles and compact vehicles. The project involves precise customization of fabric width, adherence to stringent flame-retardant standards, and alignment with the client's production timelines.

This ongoing project reflects Acme Mills' commitment to providing tailored textile solutions that meet evolving client needs. The Dymetrol fabric will be integrated into seating systems designed to enhance rider comfort, safety, and durability.

Project Specifications

- ⚙️ **Material:** Dymetrol FR CS200, flame-retardant suspension fabric
- ⚙️ **Dimensions:** 82 inches usable width
- ⚙️ **Use Case:** Automotive seating systems, including ergonomic tracker seats for compact vehicles
- ⚙️ **Scalability:** Custom converted material available

Quality Control Steps

Incoming Material Inspection

- ✓ **Material Certification:** Polyester yarn cones are inspected for tensile strength, consistency, and elasticity.
- ✓ **Dimensional Verification:** Initial woven fabric rolls are checked for precise width and weight specifications before further processing.

In-Process Inspections

- ✓ **Flame-Retardant Compliance:** Regular flame resistance tests are conducted to verify compliance with safety requirements.
- ✓ **Structural Integrity Testing:** Randomly selected fabric samples undergo load-bearing tests to simulate real-world performance in automotive seating.



Final Inspection

- ✓ **Visual and Mechanical Assessment:** Each re-rolled fabric batch is thoroughly inspected for defects, consistency in width, and adherence to project specifications.
- ✓ **Packaging Review:** Rolls are labeled and secured for transit, with clear batch information for traceability.

Manufacturing Details

1. MATERIAL SELECTION AND PREPARATION

Base Material: A woven polyester/Hytrel composite (C200 Dymetrol, white, 86-inch width, trimmed to 82-inch usable width).

Yarn Specifications: NE 24/2 airjet-spun 100% polyester yarn, known for its durability, elasticity, and flame-resistance properties.

2. WEAVING AND FLAME-RETARDANT FINISHING

Subcontracted Weaving: The base fabric is being woven by trusted subcontractors, adhering to Acme Mills' precise specifications for structural integrity and performance.

Flame-Retardant Treatment: Post-weaving, the fabric undergoes a specialized flame-retardant finishing process to ensure compliance with automotive safety standards.

3. SLITTING AND RE-ROLLING

Precision slitting equipment is used to trim the wide rolls to the required dimensions and re-roll them for efficient storage and shipping.

4. PACKAGING AND LOGISTICS

Each roll is moisture-protected and securely packaged according to the client's specifications to ensure safe transport to their seating division.



Project Highlights

- ✓ **Ongoing Project Milestones:** The project is progressing according to schedule, with regular updates provided to ensure alignment with the client's needs and delivery timelines.
- ✓ **Enhanced Safety and Compliance:** The flame-retardant treatment ensures that the Dymetrol fabric meets or exceeds automotive safety regulations.
- ✓ **Customization Capability:** Acme Mills' precision slitting process ensures fabric dimensions match the client's exact seating specifications for seamless integration.
- ✓ **Durability and Longevity:** The polyester/Hytrel composite provides exceptional resilience, even under extreme conditions, contributing to a longer product lifecycle.

The project is on track to meet the expected delivery date with all quality and performance benchmarks being closely monitored. Acme Mills' ability to manage custom production workflows, ensure compliance with stringent standards, and deliver client-specific solutions underscores its expertise in the automotive textile industry.

This ongoing collaboration demonstrates Acme Mills' role as a trusted partner for advanced material solutions, reinforcing its reputation for delivering excellence in flame-retardant textiles for specialized applications.

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