ACME MILLS
World Class Textile Solutions

AcmeKnit Knit – Warp and Circular

AcmeKnit – Knit Warp and Circular Knit Fabrics Overview

AcmeKnit Knit fabrics, particularly warp and circular knits, are integral to various industries due to their unique structures and properties. At Acme Mills, our **DynaKnit** brand offers both warp **(DynaKnit-WPX)** and circular **(DynaKnit-CRX)** knits, crafted from nylon and polyester to meet diverse application requirements.

acmeknit
KNIT - WARP & CIRCULAR FABRICS

Key Characteristics

HIGH STABILITY
Maintains shape with minimal stretching.

VERSATILITY
Suitable for various applications requiring strength and stability.

WARP KNITS (DYNAKNIT-WPX)

WHAT THEY ARE

Warp knitting involves yarns that run vertically, creating fabrics known for their stability and resistance to runs. This method produces materials with controlled stretch and high durability.

Features

- **High Stability**: Maintains shape with minimal stretching.
- **Versatility**: Suitable for various applications requiring strength and stability.

Applications

- **Medical and Pharmaceutical**
  - **Orthopedic Supports:** Provides necessary rigidity and support.
  - **Surgical Meshes:** Utilized in procedures requiring durable yet flexible materials.
- **Automotive**
  - **Seating Fabrics:** Offers durability and comfort in vehicle interiors.

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AcmeKnit Knit – Warp and Circular (cont'd)

CIRCULAR KNITS (DYNAKNIT-CRX)

WHAT THEY ARE

Circular knitting produces fabric in a tubular form, resulting in materials that are generally more elastic and flexible compared to warp knits. These fabrics are often lightweight and breathable.

Features

- **High Elasticity**: Provides excellent stretch and recovery.
- **Breathability**: Allows for air circulation, enhancing comfort.
- **Softness**: Offers a comfortable feel against the skin.

Applications

- **Medical and Pharmaceutical**
  - **Compression Garments**: Delivers necessary elasticity for therapeutic pressure.
  - **Bandages**: Provides flexibility and comfort for wound care.
- **Military**
  - **Protective Clothing**: Integrated into gear requiring flexibility and comfort.
- **Automotive**
  - **Seating Fabrics:** Offers durability and comfort in vehicle interiors.

Industries Utilizing Warp and Circular Knits

MEDICAL/ PHARMACEUTICAL

Utilized in orthopedic supports, surgical meshes, compression garments, and bandages.

AUTOMOTIVE

Applied in seating fabrics and interior components requiring durability and comfort.

MILITARY

Integrated into protective clothing and gear requiring flexibility and comfort.

Elevate Your Products with DynaKnit from Acme Mills

Acme Mills' DynaKnit products are engineered to meet the specific demands of these industries, providing tailored solutions that combine performance, durability, and versatility.

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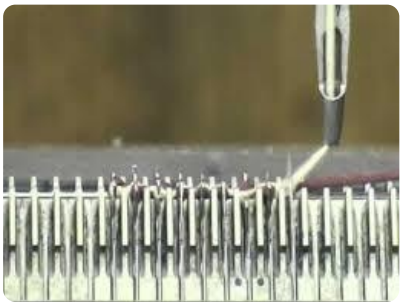
Case Study

Warp-Knit and Spunlace Fabrics for Automotive Seat Trim and Interior Components



Summary: Acme Mills partnered with a North American subsidiary of a leading Japanese automotive upholstery manufacturer to supply high-performance warp-knit polyester and spunlace fabrics for automotive seating and interior applications. The collaboration focused on delivering premium textile materials that meet rigorous industry standards for comfort, durability, and structural integrity. The project involved significant customization, precise quality control, and reliable delivery to align with the client's manufacturing schedule.

This partnership demonstrates Acme Mills' expertise in providing tailored material solutions that enhance the production process while supporting the client's commitment to superior interior design and passenger comfort.

Project Specifications

- **Material Types:** Warp-knit polyester fabrics and spunlace nonwovens
- **Order Volume:** Millions of yards of fabric supplied across multiple purchase orders
- **Applications:** Automotive seat trim covers and molded interior components
- **Delivery Schedule:** Aligned with Just-In-Time (JIT) production timelines to ensure seamless integration into the client's operations

Project Highlights

- **Enhanced Material Performance:** The warp-knit fabrics provided superior stretch and comfort for automotive seating, while spunlace materials offered excellent moldability for interior components.
- **Custom Solutions:** Acme Mills tailored the fabric dimensions and properties to align precisely with the client's production needs.
- **Rigorous Quality Assurance:** Comprehensive quality control protocols ensured that every batch met stringent industry standards for performance and durability.
- **Reliable Supply Chain:** Acme Mills maintained an efficient production and delivery schedule, supporting uninterrupted manufacturing for the client.

AcmeKnit Knit – Warp and Circular (cont'd)

Manufacturing Details

1. MATERIAL PREPARATION

Warp-Knit Polyester: High-performance polyester yarns were prepared for use on advanced warp-knitting machines.
Spunlace Fabric: Hydroentangling technology was employed to create durable nonwoven fabrics from carefully selected fibers.

2. FABRIC PRODUCTION

Warp-Knit Process: Yarns were knitted using precision looms to produce flexible, stretchable fabrics optimized for durability and comfort.
Spunlace Process: Fibers were bonded using high-pressure water jets to create a lightweight yet strong material with excellent conformability for molding applications.

3. CUSTOMIZATION

Fabric width and length were customized to the client's specifications to minimize waste during the production process.

4. ROLL PREPARATION

Rolls were slit to the required widths and re-rolled to ensure consistent tension and ease of transport.

5. PACKAGING AND DELIVERY

Rolls were securely wrapped and moisture-protected for transportation.
Shipments were clearly labeled with detailed documentation to facilitate efficient inventory management.

AcmeKnit Knit – Warp and Circular (cont'd)

Quality Control Steps

Incoming Material Inspection

- **Material Certification:** Polyester fibers were tested for tensile strength, uniformity, and compliance with industry standards.
- **Dimensional Consistency:** Initial rolls were inspected to confirm adherence to width, thickness, and weight specifications.

In-Process Inspections

- **Knitting and Bonding Integrity:** Visual and mechanical inspections ensured uniform stitching and bonding to eliminate defects.
- **Performance Testing:** Random samples underwent tensile strength and elongation tests to validate mechanical properties.

Final Inspection

- **Visual and Physical Assessment:** Finished rolls were inspected for defects, such as uneven bonding or surface inconsistencies.
- **Labeling and Packaging:** Products were verified for accurate labeling and proper packaging before shipment.

This project highlights Acme Mills' ability to deliver high-performance textile solutions for automotive interiors. By providing customized warp-knit and spunlace fabrics engineered for durability, comfort, and structural integrity, Acme Mills supported the client's production of premium seating and interior components. This collaboration reinforces Acme Mills' role as a trusted supplier of innovative material solutions for demanding manufacturing 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. (248) 232-2649 ~ info@acmemills.com