

# Hosiery Technology Center

*It Never Sleeps In A Wide Awake World Demanding Something New Under The Sun.*

**Marketing, Research And Testing**

If Rip Van Winkle awoke today, the storybook character would find hosiery manufacturing and marketing far different from when he lay down for a nap. It is more competitive and energetic due to the Hosiery Technology Center of North Carolina. The HTC is part of the N.C. Community College System located at Catawba Valley Community College in Hickory, N.C. and Randolph Community College in Archdale, N.C.

Since its inception in 1990, the hosiery center has continued to evolve and expand its outreach. In addition to its core mission of training and retraining production personnel, the center has pursued strategies for global competition. Among these programs are marketing and sales leadership, introduction of production efficiencies, and research and development services.

For small and medium-size hosiery companies, the HTC is the pulse of the “new” industry, creating awareness of trends and opportunities. But more, it is the bridge between a vision for success and the realities that lead to success.



# TO MARKET, TO MARKET





# Market Development

**H**osiery marketplace defined: fluid and challenging.

U.S. manufacturers of hosiery products are controlled by marketplace forces.

Quality, value, costs, fashion, consumer needs — met and unmet — are in the equation.

So is the ability to respond to trends and pursue emerging markets outside the United States.

Today the Hosiery Technology Center is concentrating on global opportunities and specialized niches in the U.S. markets. In partnership with the U.S. Department of Commerce and the North Carolina Commerce Department, the HTC is leading manufacturers to explore markets in Asia and Europe.

Government contracts with military purchasing offices and health-care facilities have become important for some hosiery companies served by the HTC. The staff monitors state and federal procurement offices routinely to identify opportunities. When requested, the staff helps manufacturers with paperwork to qualify as a participant in the bidding process.

Thanks to the HTC web design services, most hosiery companies are e-commerce friendly. Companies of all sizes have access to computer browsers and e-commerce technology. The flat-world marketplace has no boundaries. It does have barriers that the center has helped to overcome.



## Streamlining In-Plant Operations

**L**ean manufacturing reduces costs and is the key for “speed to market.” Also it is the key to survival for domestic manufacturers who are competing with imports from countries with low-cost labor and government subsidies.

The center provides in-plant training for implementing lean manufacturing strategies. Frequent workshops and presentations remind manufacturers of the importance of lean manufacturing. Retailers are implementing inven-

tory management systems that demand “speed to market” services. This trend underscores for hosiery companies the essential task to focus constantly on lean manufacturing and inventory reduction.

In-plant training and retraining for production personnel, especially in knitting operations, plays into the streamlining services. Upgrading of technology often is accompanied by upgrading of manufacturing skills. This role has been addressed by the HTC since its inception.

# Empowering Clients With Knowledge

In addition, the Hosiery Technology Center also offers courses in-house combining classroom time with a tour of HTC facilities. These classes — Hosiery 101 and Hosiery 102 — are intended for all types of people involved with the hosiery industry: buyers, retailers, suppliers, schedulers, supervisors, quality control personnel, designers and new employees. HTC developed these courses to help establish stronger lines of communication between retail buyers and vendors in their day-to-day contacts.

This two-day immersion in hosiery technology is intended to bring participants up-to-speed quickly. The courses are set in an informal setting that makes for easy learning and encourages questions and participation.

Hosiery 101 covers the basics of hosiery knitting, while Hosiery 102 covers dyeing and finishing as well as quality testing procedures. Course highlights include:

## **HOSIERY 101**

- Yarns used to make hosiery products and how they affect the final product characteristics.
- Yarn numbering and how it affects the weight of socks.
- New high-tech yarns that are being introduced and how they can be used to make a superior product
- Stitch formation for knit, tuck and float loops
- Flat knit, mock rib, true rib - how these fabrics are made and how they affect the final product.
- Plaiting and how it is used to create better products.
- How to determine the needle count of a sock.
- How to determine what type of machines different socks are made on.

## **HOSIERY 102**

- Terminology involved in dyeing and finishing.
- Understanding quality issues of each process.
- Different dye types and how they affect quality and price of the final product.
- Testing of hosiery products.
- Test methods relevant to hosiery products and what these test results mean.



## Research and Development

The 21st century has given rise to a new hosiery industry.

Beyond commodity socks are products that perform. Some are designed and made for specific applications: biking, hiking, running, walking, golfing and legs affected by health problems.

The research and development team at the Hosiery Technology Center brings yarn suppliers and hosiery manufacturers together for innovations. Yarns with anti-microbial properties are required for military markets. Earth-friendly legwear made with biodegradable

yarns like, corn and bamboo, are moving into new markets.

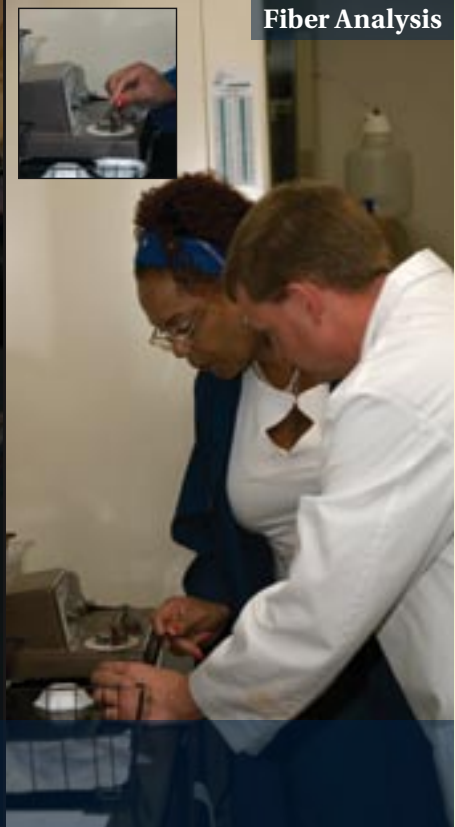
Research and development also entails the blending of yarns for added comfort and support. Innovative applications for the structure of the product are tested. Also, non-traditional products are often undertaken by the staff. These involve products that can be knitted on a hosiery machine, but target other needs, like tubes, filters and covers.

The customer sponsored programs at the HTC are proprietary. The processes and results are not available to the industry-at-large.

**Antimicrobial Testing**



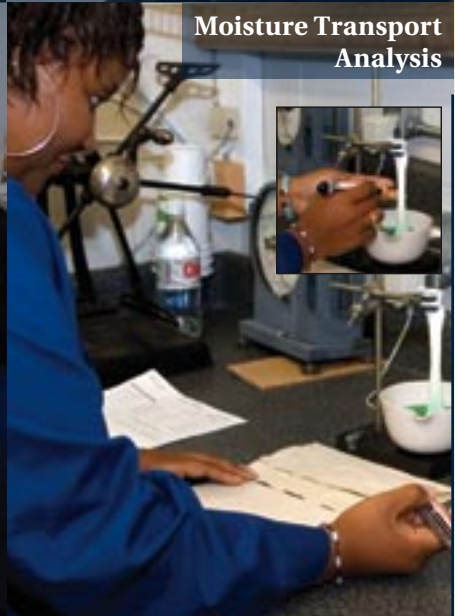
**Fiber Analysis**



**Test Results Analysis**



**Moisture Transport Analysis**





# Quality Assurance Tests

**S**ocks marketed as superior in quality probably have passed the rigorous tests at the HTC laboratories. America's leading retailers are among the clients that depend on the results from HTC's trials for durability, yarn integrity, color fastness, and structure.

The laboratories are equipped with sophisticated appliances for tests that are efficient and reliable. There are no shortcuts and no compromises. Manufacturers and

retailers can assure consumers of the quality represented by socks that have passed the tests.

The testing laboratories are a self-supporting operation within the Hosiery Technology Center. As an independent entity, the integrity of the program is assured.

The laboratories also have the capability to conduct tests for antimicrobial properties to see if a product will truly kill bacteria that cause odor and various skin problems such as athlete's foot.



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