

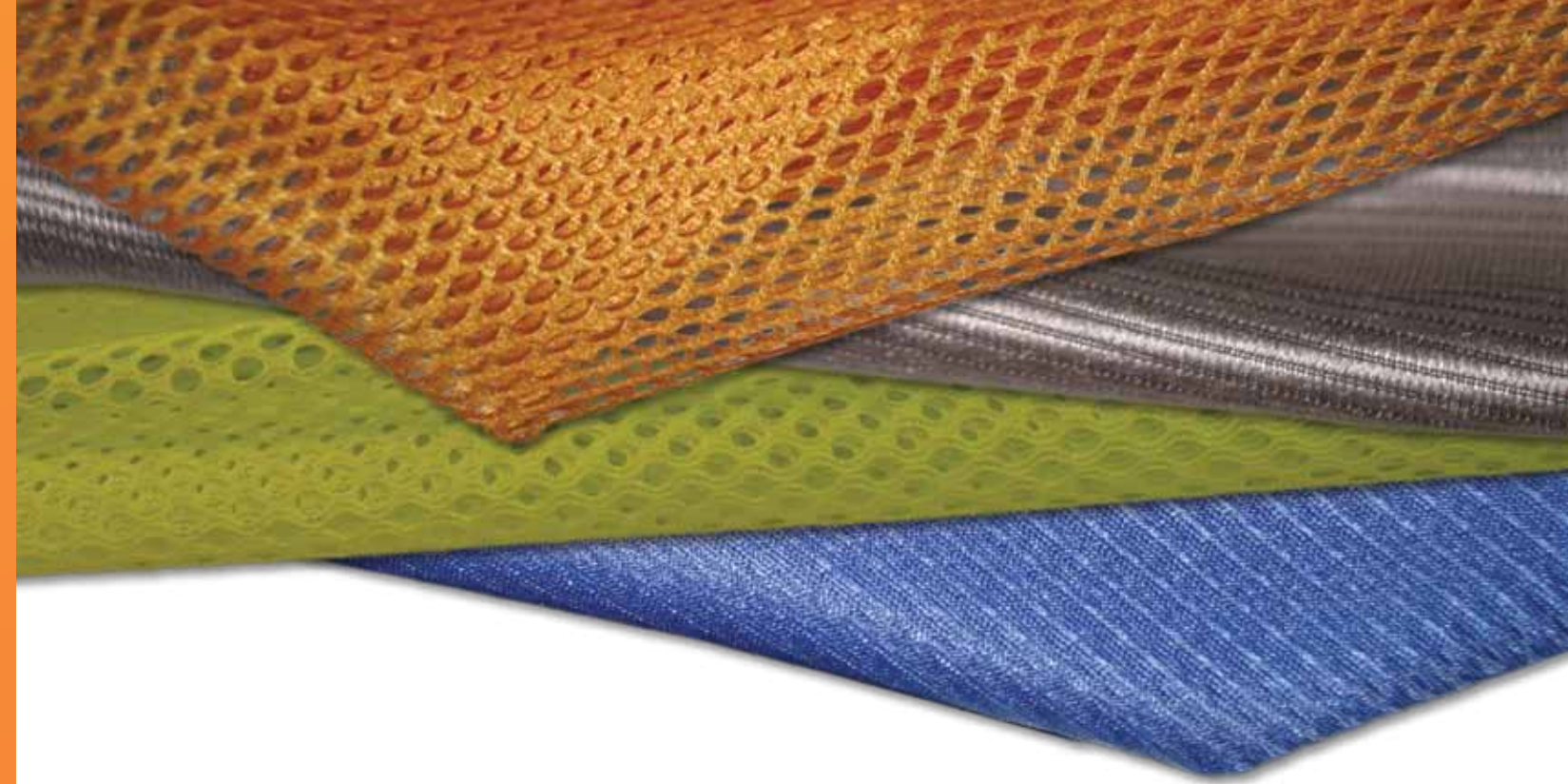
**APEX**  
MILLS

**PROBLEMS SHARED, PROBLEMS SOLVED.™**

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OVERVIEW + CASE STUDIES

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APEX MILLS  
**APPLICATION DRIVEN DESIGN™**  
MAKES YOUR MOST CHALLENGING  
TEXTILE IDEAS A REALITY.



**APEX MILLS IS A LEADING FABRIC AND TEXTILE  
MANUFACTURER SPECIALIZING IN CUSTOM  
APPLICATION DRIVEN DESIGN.**

Our experience across a wide spectrum of speciality industries allows us to ask the sort of questions that lead to the creation of breakthrough products. Breakthrough products keep our customers at the forefront of their market.

Working with Apex has helped our customers develop a competitive edge that keeps them ahead of the curve. Our ability to understand the problem they need to overcome, then develop fabric solution to answer that problem is the source of our success.

**EXPLORE HOW WE'VE SOLVED COMPLEX PROBLEMS  
ACROSS A WIDE RANGE OF CATEGORIES AND INDUSTRIES. →**



# CASE STUDY

## MEDICAL

STYLE: NW96

FABRIC TYPE: MESH

CONTENT: POLYESTER

WEIGHT: 9.20 oz/yd<sup>2</sup>



AEROSPACE & DEFENSE

APPAREL

AUTOMOTIVE

CONSUMER PRODUCTS

ELECTRONICS

ENGINEERING/TECH  
DESIGN SERVICES

ENVIRONMENTAL

FILTERS & SCREENS

FURNITURE

MANUFACTURING

**MEDICAL**

MILITARY & GOVERNMENT

SAFETY

## PROBLEM SHARED

One of the nation's largest suppliers of patient lift slings faced a challenge that created a potentially dangerous condition for the patients using them.

## PROBLEM SOLVED

After analyzing the four main requirements of the sling- fabric strength, stability, drainage and surface smoothness - we concluded that the fabric construction and the yarn choice required reengineering.

We designed a stabilized, non-stretch fabric using high tenacity yarn chosen for its strength. The fabric was knitted to create a smooth, non-abrasive seating surface that promoted drainage. The new textile was also rated 30% stronger. All of this was accomplished with no price increase. An option to use an anti-microbial finish offered the added feature of improved sanitary conditions.

## ▶ RESULTS REALIZED

The patient lift sling supplier replaced the fabric of the sling seat, and significantly reduced their risk exposure while at the same time offering a more comfortable seating surface.



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Analyzing medical requirements, Apex created a safer, stronger, and more comfortable fabric without increasing the prices.





# CASE STUDY

## FURNITURE

STYLE: PL85

FABRIC TYPE: MESH

CONTENT: POLYESTER

WEIGHT: 4 oz/yd<sup>2</sup>



Using innovative design, Apex created high performance and aesthetically pleasing fabric for an office furniture line, which then became one of the company's best-selling lines.

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### PROBLEM SHARED

A global manufacturer of office furniture wanted a transparent, cushioned fabric that met the ergonomic and cosmetic needs of their newly fashioned seating solution.

### PROBLEM SOLVED

Upon partnering with the customer's product engineers and design team, we first gained a comprehensive understanding of their design goals. We then developed a 3-dimensional fabric with the resiliency, stretch and sheerness that achieved each of our customer's goals. We developed a second component spacer fabric knit with clear yarn which further enhanced the comfort, airflow and transparency of the chair, thereby exceeding our client's expectations.

### RESULTS REALIZED

Pleased with the fabric's performance and aesthetics, the company integrated the fabric into their product mix, showcasing its forward thinking design. Within months of bringing the product to market, it became one of the company's best-selling designs.



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# CASE STUDY

## ENVIRONMENTAL

STYLE: BIOWEB

FABRIC TYPE: MESH

CONTENT: POLYESTER

WEIGHT: 11.5 oz/yd<sup>2</sup>



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## PROBLEM SHARED

The City of New York's water treatment facility was using a technology that was limiting its ability to remove nitrogen from waste water in the process needed for clean water to return to rivers and streams.

## PROBLEM SOLVED

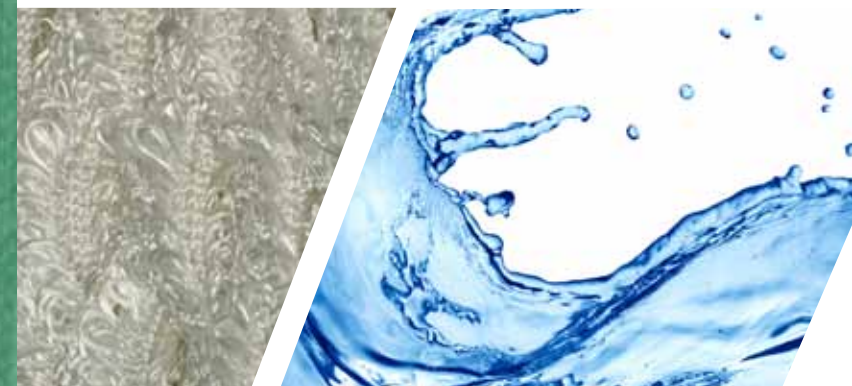
Understanding that the effectiveness of the media was dependent on the promotion of bio-mass growth, we determined that the fabric must at the same time balance surface area maximization and porosity for water flow.

After evaluating the performance characteristics of several designs, we created an innovative, highly fibrous fabric, exhibiting maximum surface area which more effectively removed nitrogen from waste water.

## RESULTS REALIZED

Apex's patented Bioweb® fabric not only achieved the customer's target effectiveness and was environmentally safe, but presented the added benefit of reducing sludge by-product. The Bioweb® system addresses the needs of growing population centers and can be installed in existing water processing facilities without the need for plant expansion.

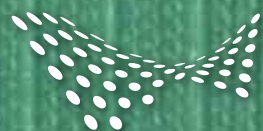
Apex's patented, environmentally-friendly Bioweb system was created to make water cleaner and safer by more effectively removing nitrogen from wastewater.



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# CASE STUDY

## FILTERS & SCREENS

STYLE: NK47A

FABRIC TYPE: TRICOT

CONTENT: POLYESTER

WEIGHT: 2.6 oz/yd<sup>2</sup>



AEROSPACE & DEFENSE

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SAFETY

## PROBLEM SHARED

A manufacturer of a reverse osmosis filtration systems was utilizing a fabric which limited process efficiency by not controlling the direction of water flow.

## PROBLEM SOLVED

A new fabric construction was required to focus the movement of liquid most effectively. The fabric was redesigned to create a unique micro-channel system that funneled the water in a single direction.

## RESULTS REALIZED

By controlling the direction of water dispersion, the new fabric considerably increased the filter's capacity and reduced waste.

Apex completely redesigned a fabric to considerably increase a filter's efficiency and reduce any waste.



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# CASE STUDY

## AUTOMOTIVE

STYLE: ND29  
FABRIC TYPE: SOLID KNIT  
CONTENT: POLYESTER  
WEIGHT: 3.25 oz/yd<sup>2</sup>



AEROSPACE & DEFENSE

APPAREL

**AUTOMOTIVE**

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### PROBLEM SHARED

A manufacturer of automotive wiping cloths felt “locked in” to their existing fabric supplier. They were dissatisfied with their suppliers’ responsiveness and pricing.

### PROBLEM SOLVED

Our textile specialists identified each of the fabric characteristics that were important to the end user. This was followed by a thorough analysis of the relevant intellectual property. Using proprietary knitting techniques, we presented a new fabric, delivering the same capabilities, at a lower cost, while avoiding any patent conflicts.

### RESULTS REALIZED

The manufacturer is no longer constrained by the patented fabric and is able to gain greater market share with an comparably functional, but less expensive fabric.

Without infringing on any patents, Apex created an automotive fabric with all desired functionality while still reducing the cost, which enabled the client to gain a greater market share.



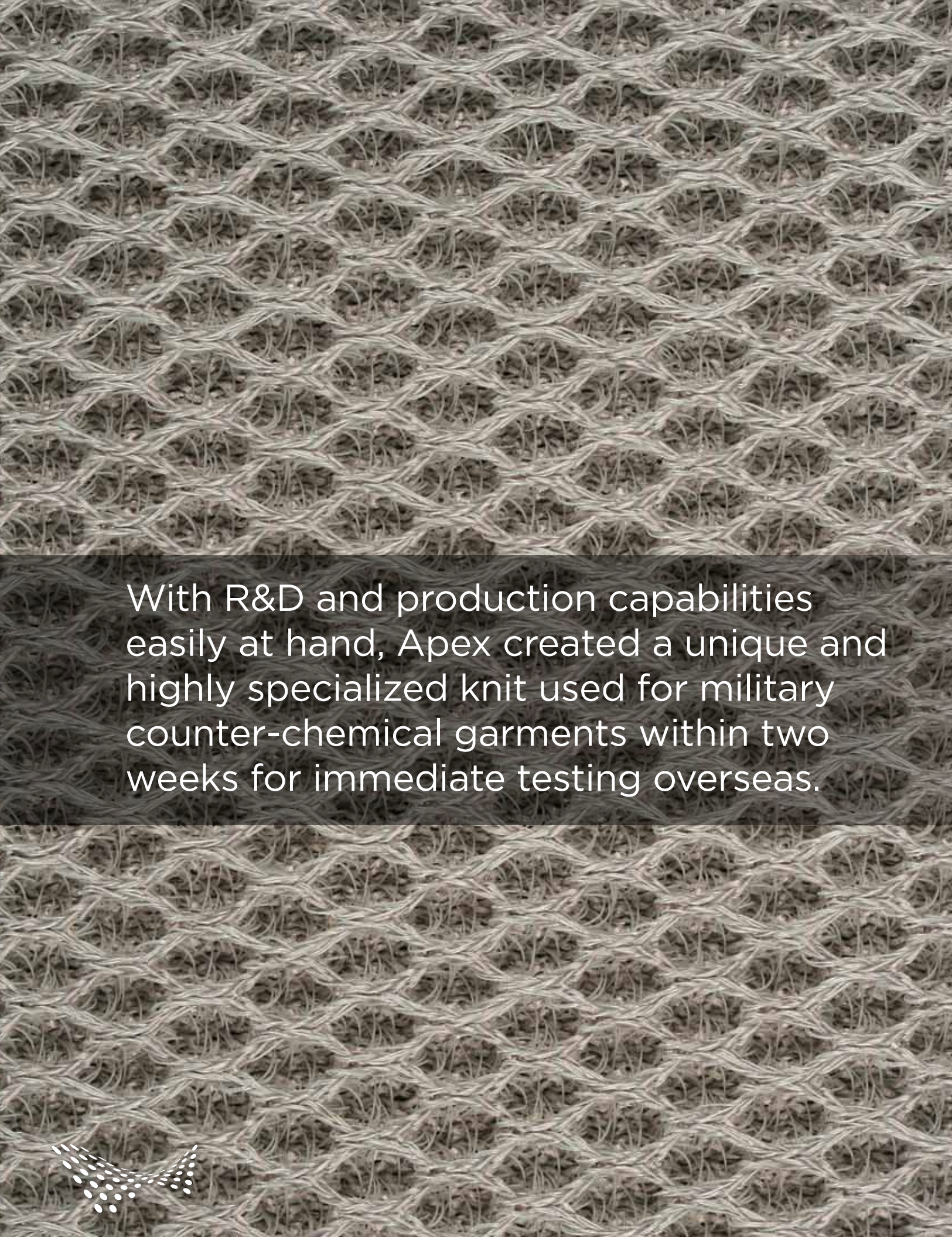
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With R&D and production capabilities easily at hand, Apex created a unique and highly specialized knit used for military counter-chemical garments within two weeks for immediate testing overseas.

# CASE STUDY

MILITARY &  
GOVERNMENTAL

STYLE: XT54  
FABRIC TYPE: NETTING  
CONTENT: HIGH-MODULUS  
POLYETHYLENE (HMPE)  
WEIGHT: .07 oz/yd<sup>2</sup>



- AEROSPACE & DEFENSE
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- ENVIRONMENTAL
- FILTERS & SCREENS
- FURNITURE
- MANUFACTURING
- MEDICAL
- MILITARY & GOVERNMENT**
- SAFETY

## PROBLEM SHARED

A military contractor required a high strength, light-weight fabric for a new counter-chemical/ biological warfare garment utilizing nano-technology. The prototype fabric was an integral part of the garment to be fabricated and tested in Europe in two weeks.

## PROBLEM SOLVED

After collaboration with the customer, we selected an ultra-high strength yarn with the ideal characteristics for their application and designed a unique knitting pattern targeted to meet the customer’s performance and weight requirements.

Once designed, we warped, knitted and finished the material in 8 days, in time for the contractor’s trip.

## RESULTS REALIZED

With our rapid response, US based R&D and production capabilities, we were able to mobilize quickly and enable the customer to bring a prototype of the fabric to Germany for technical and field based assessment. Our ability to expedite product delivery enabled our customer to accelerate development and go-to-market earlier.



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# WE LIVE HERE TOO

THE QUALITY OF YOUR TEXTILES IS CRITICAL BUT  
SO IS WHERE THEY'RE MANUFACTURED.



## THE BENEFITS OF MADE IN THE USA

Apex Mills is proud to be a thoroughly American company. Located in Long Island, NY., all of our textiles are produced and manufactured right here in the United States. Since our inception in 1943, it has been a primary focus of our company to keep up this long standing commitment.

The benefits of producing textiles in the USA start with domestic job creation, and extend well beyond that to have a real bottom-line impact for our clients.

**On-site Development:** There's no better way to keep a job on track that real-time, in-person monitoring of the manufacturing process. This allows us take charge of every aspect of the process, and consistently meet our obligations to our clients.

**In-person Collaboration:** Nothing replaces in-person contact to truly communicate an idea or concept, especially with something as detailed and intricate as textile manufacturing.

**Ease of Communication:** Cultural nuances and communications skills have a great impact on sharing ideas and the collaborative process.



## THE ECORICH™ FAMILY OF FABRICS: AN EXERCISE IN SUSTAINABILITY

**When a leading athletic shoe company wanted to introduce “greener” running shoes into its line it came to Apex Mills to develop ecologically friendly upper and lining fabrics.**

Apex presented a wide variety of options to produce fabrics sensitive to today's growing ecological concerns. Vegetable dyes, low eco-impact dyes, non-synthetic based yarns and post-consumer recycled sustainable yarns are just a few of the techniques used to eco-enrich the fabrics.

Working closely with the client, Apex designed and developed the first of its EcoRich™ family of fabrics.

And, it's not only new fabrics that can be made environmentally friendly. Every fabric previously produced by Apex Mills can be reproduced green to fit into our EcoRich™ family. This can be accomplished cost effectively without changing the characteristics of the original fabric..



## PROBLEM SHARED. PROBLEM SOLVED.™

It's more than just a tagline, it's the essence of our brand and encompasses our collaborative approach to creating fabric solutions for our customers. Our process has been honed and refined over seven decades and is the core principle of everything we do at Apex Mills.

**We are focused on only one thing, the success of our customers.**

We want to work with you to find better solutions for your fabric needs. Our extensive knowledge across multiple industries and fabric applications is at your disposal, so ask yourself one question.

### “IS IT TIME TO RE-EVALUATE YOUR CURRENT FABRIC SUPPLIER?”

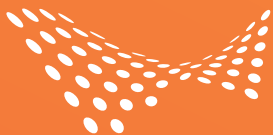
Regardless of your answer we know that once you've worked with Apex Mills you will come to value our objectivity, focus and ability to create innovative fabric solutions that will yield profitable results.

Contact us today and one of our knit fabric experts will guide you through our gallery of fabric solutions. We look forward to working with you.

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