



CONSTRUCTING CONCEPTS into Cloth

If speed and flexibility are what a company needs from a reliable, application-driven fabric source, Apex Mills is the only call.

"Here, creativity is crucial, and the company has continued to evolve with its clients' needs, staying ahead in the textile innovation race every step of the way."



Written by Pauline Müller

From three-dimensional performance textiles for office furniture to fast deployment of shrapnel-repelling window treatments for high-threat areas, this dynamic, innovative company based in Inwood, Long Island, New York manufactures advanced fabrics backed by solid engineering expertise and fiber knowledge. Apex Mills is also uniquely equipped to design and create some of the most sophisticated textiles known to man.

“We are very much a local company with a global reach,” says Pamela Siegel, chief marketing officer of Apex Mills. And that global reach does an immense amount of good in the world, like with the BP oil spill off the Gulf of Mexico in 2010. After an enormous amount of crude oil leaked into the ocean, the team at Apex Mills developed an extraordinary fabric to cover a boom that helped clean the ocean, and this was no mean feat considering the vast area that had to be covered.

The company is headed up by brothers Jonathan Kurz, chief executive officer, and David Kurz, chief financial officer. Its vast range of next-generation textiles is forever growing and even includes substrates to insulate spacecraft.

So, if you have ever pondered the (un)likelihood of bagging yourself a piece of real estate on the moon and it has occurred to you that temperature may be an issue, a bulky down jacket probably just will not cut it. The textile technology applied to solving some pretty out-there temperature and insulation issues is complex, but collaborating with NASA, Apex Mills has manufactured the insulation fabric for every one of the space agency’s spacecraft to date.

Spacecraft and satellites experience severe temperature fluctuations – from negative 195°F to positive 300°F – while orbiting the shade of the earth or in the sun’s path, and materials are needed that can protect during both extremes. Partnering with scientists and engineers, Apex Mills developed a multi-layer insulation system that reflects radiation away from the spacecraft. Using multiple layers of this reflective film serves as a barrier and depending on the exposure to the elements, will dictate the number of layers required.

When it comes to smart textiles, one can be forgiven a certain level of confusion and wonder. While the thought of wearing an ordinary looking garment that can see, hear, communicate,

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store and convert energy, regulate temperature, monitor health, or adapt color may be a bit far-out for most of us, most of Apex Mills' American-produced products are designed for our utmost comfort and protection right here on terra firma.

The lengthways stability and strength of warp knitted textiles is ideal for including advanced innovations. Unlike grandma's knitting, in warp knitting, the fibers run up and down the length of the fabric, rather than across.

The company's product engineers and designers have years' of experience in designing application-specific mesh and netting, solid knit, and spacer solutions with integrated, three-dimensional (3D) fabric structures. Its technical textiles are made with the help of the latest in chemistry, prototyping, and advanced research and development.

"Imagine a fabric that can read your heart rate and send a signal to medical professionals if there is a problem, or a fabric that can alert our soldiers of impending danger."

More than just a fabricator, this company is structured to address individual needs and becomes a sleekly integrated extension of its partners' operations. "Apex is your very own trusted textile and technology department. We welcome new ideas and challenges and do everything in our power to make them happen," says Jonathan. As such, it offers maximum gains and incredible support to companies of all sizes.

Apex Mills can even supply cut parts to make its customers' supply chain more efficient. It is no wonder then that the company counts satisfied and successful clientele from small start-ups to a number of really large Fortune 500 companies. This includes orthopedic and footwear manufacturers, leisure and protective wear manufacturers, a Broadway production or two, and many more.

Here, creativity is crucial, and the company has continued to evolve with its clients' needs, staying ahead in the textile innovation race, every step of the way. The company was once a major manufacturer of flocked blanket components, but changes in modern bed linen trends brought a steep downturn in the market. To this, Apex Mills responded creatively and fast. It turned its focus toward manufacturing substrates for automotive laminates and has never looked back. »



▶“From early on, my father had a vision. He believed that custom development was key for his business to grow and flourish, hence our motto: Problem Shared. Problem Solved,” says Jonathan. The company is becoming increasingly more niche-focused and application-driven, with client fabric needs leading the way.

The company’s textile portfolio is becoming increasingly more technologically advanced through its work with some brilliant minds, and its resulting product selection has expanded greatly. Today, one of the team’s innovations is a range of complex fabrics used to cover ceilings in theaters and large production facilities. These contain a certain number of threads that are melted by the heat generated in a fire emergency, allowing the fabric panels to louver down automatically from their ceiling positions to let water from fire sprinklers reach the fire below.

Apex Mills also works closely with the contract furniture industry, providing top-notch textiles for next-generation office chairs.

“My most gratifying moments are seeing how positively people react to new furniture covered with our fabric at big trade show launches. It gives me such pleasure to know that we’re continuously creating the ‘next hottest thing’ right here at Apex Mills,” says Jonathan.

“At Apex Mills, success is driven by a customer-centric focus which is amplified by a strong family culture.”

The business started out in 1943 when Jonathan’s father, Milton Kurz, began selling fabrics, bridal veils and tulle in the area around the Empire State building and Manhattan’s bridal and garment centers. With hard work and determination, Milton eventually was able to start renting machines, making his own custom, patented fabrics. This was followed by investing in his own textile manufacturing facility, which in turn led him to acquire two knitting facilities in addition to the corporate headquarters..

“My father had a physical impairment that prevented him from joining the army during WWII, so instead he created what was to become a wonderful career from scratch during very hard times. He built this business with great pride and strong values,” says Jonathan.

Milton Kurz had been an avid wedding photographer before he went into textiles. He kept his dark room in the basement of the family home and continued his photography on the side. “I clearly remember my dad taking super close-up shots of

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textiles, and then he would study the structures and weaves. I wasn't such a willing eight-year-old lab assistant. It was a smelly dark room full of chemicals, but that incredible drive of his stuck with me," Jonathan says.

His father's innovative thinking did not stop at clothing, either. Mr. Kurz Senior created a host of really practical fabrics for other uses. He designed a special mesh to pull across huge trellises along which his garden vines could creep and a drying rack with a fabric on which sweaters could be dried, amongst scores of other creations.

When Jonathan Kurz went to law school, the determination of his father – so deeply instilled in him and his siblings – remained a great driving force in his studies and throughout his career as a practicing lawyer. "The most valuable thing my father taught me was to do the right thing by all customers. One has to be fair, and you also have to be approachable because both your and your customer's success depends on this," he says.

Jonathan applied this lesson in his practice when he decided that no contract should ever serve one of the parties better ►►



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▶ than it does the other, but instead always made sure that both got a fair deal. This principle still holds true at Apex Mills today.

Apex Mills is one of the original members of the consortium Advanced Functional Fabrics of America (AFFOA) and has been awarded two grants to work with distinct universities to develop new smart textiles. This is just another way that the company demonstrates its forward-thinking approach to serving the nation. The consortium was initially funded by the Obama administration to help the Department of Defense in developing smarter textiles that could also be commercialized.

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“Using combinations of conductive and non-conductive yarns we are creating new textiles that can become sensors, antennas or actuators in new product form factors. These textiles will enable medical, industrial, consumer electronics and apparel/footwear industries to elevate product use case scenarios toward ubiquitous computing with textiles,” says Jonathan. His prediction is that, in the very near future, our means of telecommunication will become integrated into wearable garments. These areas are where Apex Mills is seeing the strongest market developments, and so it is focusing much of its expanded research and development on these e-textiles. In fact, the company’s research team approaches its work with the sole purpose of discovering new applications through collaborating with both academia and manufacturers in developing such next-generation fabrics.

At Apex Mills, success is driven by a customer-centric focus which is amplified by a strong family culture. The company’s team of 125 specialists works closely together across several disciplines. For instance, the head textile engineer and the manufacturing facility are integrated with the development team, of which the chief financial officer is also a part. The head of product development – a former member of Microsoft and an automotive specialist – spends two weeks of every month traveling around the country attending and presenting at conferences and listening to customers, bringing back new product developments and ideas.

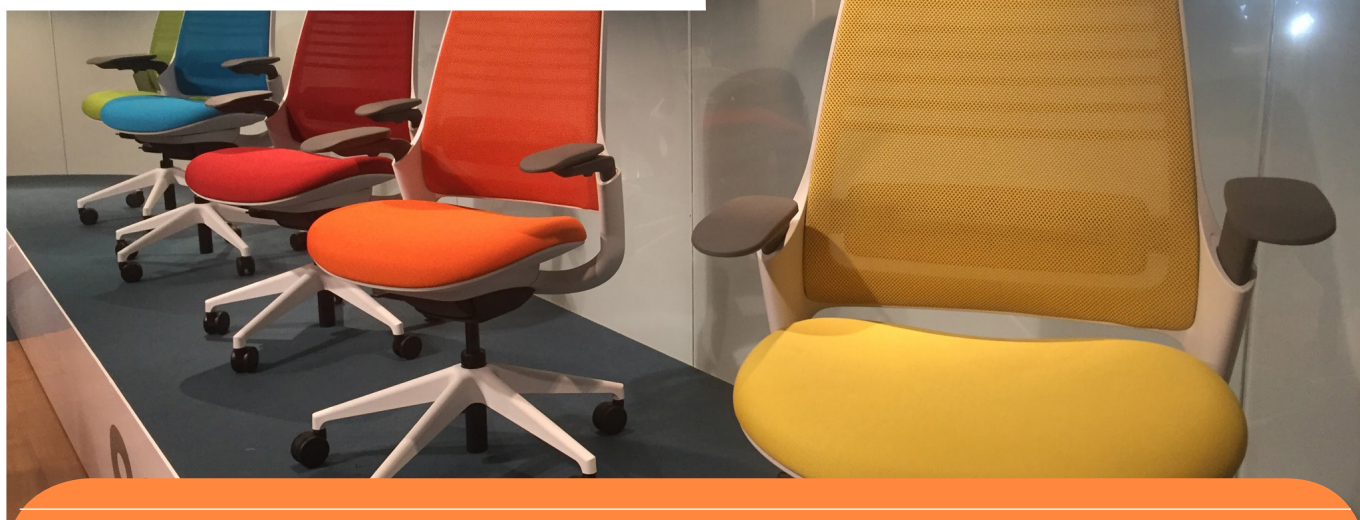
In addition, the company recently had its 3D spacer fabrics Standard 100 certified by OEKO-TEX®. The International Association for Research and Testing in the Field of Textile and Leather Ecology is a well-respected global textile watchdog that not only sets out to protect consumers but also the planet,

and the Apex mill in Graham, North Carolina is well-equipped to meet performance testing and military specifications. It operates continuously, allowing the outfit a wide ability of onsite development and the ability to collaborate with clients in person with phenomenal response times. Apex Mills is always committed to improving customers' satisfaction further through its sophisticated quality management systems and will soon be ISO 9001:2015 certified.

In addition to its focus on quality, charity is also an integral part of the company, and Apex Mills has a heart as big as its will to succeed in its field. Apart from regular staff gatherings and annual functions where everyone can meet and spend time together, it is also planning a special event to celebrate its seventy-fifth anniversary this year. The team plans to close the office on the day to join a local charity where it will volunteer in celebration and gratitude for its long and fruitful run by giving back to its community. It is not surprising that many of its valued staff have been a part of its family for over twenty years.

Jonathan and David Kurz are proud to continue their father's legacy. "We're very excited about our work with AFFOA. Imagine a fabric that can read your heart rate and send a signal to medical professionals if there is a problem or a fabric that can alert our soldiers of impending danger, maybe even a fabric structure that can prevent the elderly from falling and breaking a bone," Jonathan says.

These endless possibilities, together with the company's current collaboration to build semiconductor technology into fabric constructions are just a handful of ways in which this proud industry leader may change the futures of many millions of people across the globe. Apex Mills' phenomenal contribution of quality and homegrown genius will lead the way for generations to come as its future is a smart-tapestry closely knit from specialized textiles and high-tech innovation. ■



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