

THE DYNEEMA® PROJECT

# TRAILBLAZERS

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## ALLEN LITTLE - 'One amazing fabric'



Allen Little was born into textiles. Beginning at his family's business three decades ago, he is now the Director of Product Development at [Cone Denim®](#) – a company renown for being on the cutting-edge of denim. He shares his thoughts on the industry and the current game-changing role being played by Dyneema®.

## What drives you in what you do?

AL: I have spent my entire career of 30-plus years in the textile industry, starting with our family-owned cotton-spinning operation. About 25 years ago, the company moved into spinning high-performance fibers and from there I got my taste for working with high-tech substrates. Later, I moved to a machinery company that specialized in the making of fancy yarns (slub), which became the mainstay for denim as we know it today. As effect, with yarns being the backbone for most denim designs, I was able to work and develop relationships with denim mills all over the world. Cone Denim was one of those mills and a leader in that segment.

We have worked together ever since...

As Director of Product Development for Cone Denim, I am responsible for managing the product development cycle in the company. This means working with our customers and design team... Listening to everyone's requests, needs and wants. Then we turn these ideas and requests into a working construction at the mill level... And from there, a product is created.



I am driven by a never-ending quest to find new technologies and create new fabrics that incorporate fashion and performance. It's very rewarding to start with a new fiber or technology, create the yarn/fabric design, and then see your creation come to life in a finished pair of jeans.

## You've worked at Cone Denim for 12 years. What were the most significant changes you've witnessed happening in the denim industry?

AL: Denim is not just for workwear or fashion anymore. It's not enough to supply the standard 14 oz. 100% cotton fabric that is rugged and tough – or to provide a visually pleasing fashion design. Consumers want their jeans to do more. When we created our patented SGene® stretch technology almost ten years ago, we were able to provide the market with more advanced high-stretch and superior shape retention and recovery.

With the advent of performance fibers like Dyneema®, we are able to offer the authentic aesthetic that Cone is known for, combined with a modern design incorporating performance features like strength and durability. Consumers can now wear performance jeans to go rock-climbing, skateboarding and motorcycling, before directly proceeding to a nice dinner and a night on the town.

# “I think denim with protective properties will continue to grow”

## What has your role been in the R&D process when working with Dyneema®?

AL: I was very hands-on throughout the entire process of getting Dyneema® into Cone Denim. It all started with the fiber and how to process it. We worked closely with our spinning and development partner Patrick Yarns to perfect the

spinning process specific to the Dyneema® fiber. Then we worked through our own manufacturing plants to refine our processes related to weaving the fabrics. The complete process was a challenge... We wanted to make the best fabric out there – and I think we succeeded.

**In which way does the Cone denim with Dyneema® technology differ from that of other manufacturers?**

AL: We have been working at Cone with higher percentages of Dyneema® than we see from other manufacturers, so we have the added strength, durability and abrasion resistance that comes with that. We combine these attributes with our authentic designs, so then you have the best of both worlds. The performance features are hidden to the eye but are there when you need it. We have also incorporated all the different deniers and fiber types that Dyneema® has offered to us – depending on the end use and targeted customer.

**Cone Denim is one of DSM Dyneema's 'Premium Manufacturing Partners'. What does this mean exactly for Cone Denim?**

AL: Our partnership with Dyneema® is special for us. We always search for the “right” partners in technology and DSM is exactly one of those. We get full support from DSM's technical, sales and marketing departments. Cone is very proud to be one of DSM Dyneema's Premium Manufacturing Partners and we have worked very close with them in our R&D efforts to fine tune the products that we are currently offering. It has definitely been challenging but also very rewarding. When you look at the performance numbers on this fabric, they speak for themselves...

**“We are now working on some stretch initiatives”**

**The denim with Dyneema® was developed within the context of Cone Denim's own R&D incubator, Cone 3D. Can you tell us something of this team and its working methods**

AL: Cone 3D is a unique part of Cone Denim. In my role I am responsible for leading the R&D efforts of the 3D team, which encompasses members from the design, marketing, product development, manufacturing and product quality areas. Each segment is represented on the 3D team. This allows us to make products that are technically advanced, market right and offer the highest quality that Cone is known for. The fabric can be the coolest, best performing product in the world, but it still has to run through the mill...



**What complexities did you encounter while working with Dyneema®?**

AL: The Dyneema® fiber is an incredibly strong and tough fiber. And then to spin this type of fiber into a yarn that has slub character, that can be dyed on an indigo range and that can then be processed on high-speed machinery... These are all

challenges. Adequate processing of the fiber requires the correct machinery and techniques at the spinning mill level. Fiber preparation is also critical.

**What makes Dyneema® for you a relevant and/or exciting fiber to work with for denim fabrics?**

AL: Dyneema® is 15 times stronger than steel. That is both relevant and exciting. This produces yarns and fabrics that are strong and lightweight. Add excellent abrasion resistance and you have one amazing fabric.

**How are you planning to follow up this program? Which new executions of denim with Dyneema® are in the making?**

AL: So far our offerings have been primarily rigid fabrics in some light and medium weights. We are now working on some stretch initiatives. Furtherly, we are expanding our offerings to include our Cone Denim mill in China. We are always continually improving our offerings in performance denim and Dyneema® plays a key role. After all, if you're not first you're last....

**In which direction do you see Dyneema® developing within the denim industry? Will it be more about adding more to enhance the denim's protective properties? Or will it go in the direction of increasing comfort and flex for use in urban sports?**

AL: I think denim with protective properties will continue to grow and the area of urban sports will also continue to grow. So both are very important. The focus will be more about delivering a product that combines both – providing protection while also incorporating flex and comfort.

**The fading of Dyneema® denim depends on the percentage of Dyneema® used. How would you compare the differences in fading between regular denim, the Levi's 501 Strong you manufactured and a more Dyneema®-enhanced denim?**

AL: Actually, I think the fading of denim is more related to the indigo dye we use and how heavy the shade is. I don't think the Dyneema® fiber really plays a role in how we accomplish fading.

**Finally, do you see any other fibers or fabric developments that are currently 'hugely exciting' for denim?**

AL: There are always new fibers on the market making a lot of claims – but these claims are often very hard to substantiate. Dyneema® remains an important fiber in today's market and we don't see that changing anytime soon.