

Reliable, Repeatable Product Testing

MTS enables a sporting goods manufacturer to streamline R&D and QA/QC testing



Keith McKinley (left) and Sean Whitney with MTS Exceed Test System

“The accuracy of the MTS Exceed system is without question. It’s highly repeatable. We immediately noticed how consistently we could conduct tests. It’s a level of consistency and accuracy we had not experienced before.”

— Sean Whitney
Engineering and Innovation Director
East Coast Dyes

CUSTOMER CHALLENGE

East Coast Dyes is a lacrosse equipment manufacturer founded by brothers and college lacrosse players, Greg and Mike Kenneally. The company originated five years ago with the creation of their first product: East Coast Mesh, a wax-coated lacrosse mesh that prevents water absorption during play. Through the success of their mesh and subsequent products, East Coast Dyes has grown from a one-room operation into a 21,000-square-foot facility located outside of Baltimore, Maryland.

“Our mission is to make lacrosse players better,” said Sean Whitney, Engineering and Innovation Director. “We do that through technical advances that have a real impact on performance, whether that is the mesh, the shaft, the head or the ball. Players feel the difference right away.”

The company’s focus on innovation means that product testing plays a key role in research and development (R&D) as well as quality assurance and quality control (QA/QC). Unfortunately, there are very few applicable test standards for lacrosse equipment.

“In our test program, there are not a lot of ASTM specs we can follow,” Whitney said. “Often we need to create our own test plans to validate the performance characteristics of our products. As a small organization, we need to be very efficient with our time and our budget. We want to get accurate results with as few specimens as possible. We need test data quickly. We need to interpret it quickly to help our product team make decisions. And we need test equipment that produces consistent, repeatable results.”

One of the company’s first test systems, a drop tower for evaluating dents in aluminum shafts, was built with parts from a hardware store. But as the company grew, expectations for its test program changed too. The company needed an affordable universal test system that would deliver the performance, durability and accuracy to keep pace with its product innovations.

MTS SOLUTION

East Coast Dyes uses an MTS Exceed® Series 40 Electromechanical Test System for a variety of applications. Compact, reliable and easy to operate, this system is engineered for low- to medium-force monotonic testing. High-speed, low-vibration MTS electromechanical drives and integrated, digital closed-loop controls enable the system to test in load and position control at force capacities ranging from 5 N to 100 kN. The solution also includes easy-to-use MTS TestSuite™ TW software.

“The MTS Exceed system has allowed us to significantly condense our footprint for test equipment because so many tests can be done on it,” Whitney said. “The ease and speed of testing has also dramatically streamlined our production process.”

East Coast Dyes uses the MTS Exceed system to evaluate new designs of mesh, shafts and heads during the R&D phase. The system also performs a compression test on the company’s Mint Premium Lacrosse Ball for quality control purposes. Most recently, East Coast Dyes used the MTS Exceed system for evaluating composite shafts.

“We tested shafts to see how our Kick Point Technology performs,” Whitney said, referring to the shaft’s unique ability to flex at specific points, adding “snap” to shots and passes for extra power. “The MTS Exceed system provides data we didn’t have before, and it’s fantastic. We now have a lot of data, and the accuracy of it will help us continue to design position-specific solutions for high-performance shafts. When we receive our next batch of prototypes, we’re going to be able to test them in the same repeatable way.”

CUSTOMER BENEFITS

According to Whitney, the accuracy of the MTS Exceed system is a critical advantage because the company’s test team is frequently designing its own tests and setting its own performance standards.



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“The accuracy of the MTS Exceed system is without question,” he said. “It’s highly repeatable. We immediately noticed how consistently we could conduct tests. On our first composite shaft tests, we set up the system for a three-point bend deflection test. Then we set up a second specimen, and the system came within one half-pound of the previous test. It’s a level of consistency and accuracy we had not experienced before.”

Simplicity and ease of use are important factors for this agile company that thrives on quickly bringing the latest innovations to market. Specifically, the ability to program test methods has allowed East Coast Dyes to interpret data quickly, act on the insights and accelerate its test schedule.

“The MTS Exceed system has made my job a lot easier,” Whitney said. “If we need something tested, I can usually get it done within one or two days. For example, the other night Greg Kenneally mentioned an older prototype that he wanted to retest.

By the following morning, we already had the results. We knew the data was accurate, and we knew how to proceed with the prototype.”

Keith McKinley, Lead Product Technician, noted that much of this productivity came about because MTS spent so much time with his team during the test system’s installation and training process.

“MTS did an amazing job,” McKinley said. “Our field service engineer stayed an additional four hours after he was finished, helping us set up custom testing templates and answering all of our questions. We were really impressed.

“We’ve had a great experience with MTS,” McKinley continued. “The technology gives us the data that we need, and it’s data we can rely on. This helps us make sure there is a true performance difference in our equipment, one that translates into better results for lacrosse players on the field.”

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