

In the Market



University Education

> By Kathlyn Swantko, contributing columnist

MIT Students Perform Innovative Sports Research on PORON XRD

Within the competitive sports world, the goal of any sports company is to create products that help the wearer or the user of the equipment perform at a high level. In addition, the manufacturer expects the product to provide the reliability an athlete can depend on, with the hope that its product becomes the benchmark for the development of all future product innovations.

Since 1999, the Center for Sports Innovation Lab at MIT has been providing expertise and guidance for companies to do just that. The Center utilizes advanced technology to test and research a variety of sports apparel and equipment to assist companies in the development of products that enhance the sports experience for athletes.

Programs studied in the Sports Innovative Lab have centered on the adaptation of new technologies from other industries, creating new sports products, optimizing the performance of sports equipment,

and adding to the overall education in product development design and innovation. Some of the major companies to utilize the Lab's expertise include Reebok, New Balance, and Rawlings.

Dr. Kim Blair, the director of Lab, explained, "The educational intent of this program really focuses on coming up with good projects that show good experimental designs, so the students actually have a chance to develop and test the hypothesis."

One of the most recent companies to take advantage of the Lab is Rogers Corp., which has the MIT students testing its newest product, PORON XRD foam.

"Our involvement with the Sports Innovation Lab was to support MIT's activities in the area of sports innovation, and to further the development and testing of our new product PORON® XRD™, Extreme Impact Protection material," explained Angela Walters, consumer products specialist for Rogers Corp.

According to Walters, PORON XRD was developed because of customer requests for a foam that could absorb multiple impacts, while at the same time providing comfortable, lightweight, breathable, and soft/flexible qualities. The targeted end-use applications for PORON XRD include padding in helmets, baseball chest protectors, football/hockey/lacrosse shoulder pads, soccer shin guards, metatarsal guards for work/mining boots, and compression apparel for a wide variety of sports.

Two of the PORON XRD tests performed by the MIT students were a drop test of a hockey helmet, made with XRD, to determine the additional energy absorbed by the XRD foam during impact, and an impact test of baseball catcher's gear to determine the additional energy absorbed by the XRD foam during impact.

Overall, the Center keeps its objectivity on all the products it tests. Dr. Blair stated, "As an innovator of new technologies, we do our best to push the limits of the rules, because that's what we're asked to do. But, we don't get involved in what the rules should be. We let the individual sport decide what it wants to do with the product."

For more information on PORON XRD, please contact Angela Walters at Rogers Corp., angela.walters@rogerscorporation.com, (860) 928-8914. For more information on the Sports Innovation Center at MIT, please contact Kim B. Blair, PhD, at Blairk@mit.edu. ▲



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