



## Press Statement Issued by Hammer Lacrosse

### DuPont Praises Hammer Design Granting License to Use Kevlar® Brand Name

PLEASANTON, CA, November 22, 2007 – Hammer Lacrosse today announced it has secured licensing rights to use the trade name Kevlar® in its product label.

Kevlar has a very unique blend of attributes that make it particularly well suited for the Hammer PowerShaft™. It is strong, wear resistant and fibrous in the composite matrix state, giving it a unique strength and flex combination. In a biaxial weave configuration, it delivers consistent, scalable performance, similar to muscle layers controlling extension. The PowerShaft is a system of dynamically related components providing Relational Flex™. The Kevlar muscle layer, combined with the vibration damping graphite reinforced PowerCore™, provide a recoil system that improves shot speed, accuracy and control, and scales with athletic ability.

The DuPont licensing engineer specializing in the sports industry use of Kevlar brand fiber, Brian Foy, assigned to review Hammer's engineering and use of Kevlar, had this to say about the PowerShaft, "I am very impressed with your product and the way you are utilizing the performance advantages of Kevlar to deliver an improved product. Your composite structure is a more advanced structure than I have seen used in sporting goods. I wish you success."

"We experimented with every know aramid, but only Kevlar's unique strength and durability gave us the proper strength-to-flex ratio required to meet our "Relational Flex" specification," reported Rene Meyer, Hammer's VP of Manufacturing and R&D. "Testing and approving Kevlar for use in the Hammer PowerShaft was a complex process. After years of material studies and testing, it is safe to say, DuPont Kevlar is in a league of its own."

"Engineering a shell that is flexible and impact resistant is very complex," continued Mr. Meyer. "We have performed over 3,000 material and design tests in the development of the Hammer PowerShaft. The Kevlar material reigns supreme. In our studies of fiber-reinforced composite materials, we study kinetic, strain, and delamination surface energies extensively. We use several standard techniques including, Fast Fourier Transform Analysis (to study the kinetic waves that travel like ripples in water through the shaft), in combination with High-Speed Cine-Techniques to examine the shell performance in slow motion. Simple models are used to compare shell deformation energies. Energy terms of various materials tested were shown to be consistent. However, the Kevlar results did not fit the pattern of the other materials. In Kevlar, nearly all the impact energy appeared as tensile strain. Putting it simply, Kevlar, working in combination with the Hammer graphite reinforced PowerCore, flexes like a biomechanically-correct fibrous-muscle-spring, enabling the Hammer shaft to load-up, storing and returning kinetic energy without damage."

HAMMER LACROSSE is a division of Hammer Sports Inc., a leading developer, marketer and distributor of branded performance sports equipment and accessories. Through an unwavering commitment to innovation, Hammer creates products designed to make every athlete a better athlete. Hammer's products are used primarily in team and individual sports activities such as lacrosse, ice hockey, field hockey, baseball, softball, and water sports. Headquartered in California's high-tech corridor, Hammer has dedicated R&D and manufacturing facilities with focus on global competition. For more information, visit [www.hammerlacrosse.com](http://www.hammerlacrosse.com).

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