



Concave speeds up football evolution

Toronto-based sports footwear manufacturer Concave Holdings Inc. was established in 2007. Its initial product release was a technologically advanced football boot, the PT-1, the concept for which originated in Australia. According to the company, the boot has the power to change football as a sport in the same way that it believes Prince racquets changed tennis and Big Bertha clubs affected golf. The company claims the Concave boot will impact the market in a similar way because, in its own words, the design simply makes more sense.

According to Concave, innovation to improve the performance characteristics of football boots had been virtually at a standstill for decades prior to the launch of its boot. Its tagline, "Game Evolved", reflects the way the company perceives itself as an innovator. It compares the launch of its boot to the process of evolution, which it says takes the form of "typically slow change punctuated by leaps forward". The company describes the Concave boot as a "technological leap forward" that has accelerated the evolution of football. It believes the introduction of this technology could have far reaching and long-lasting implications, claiming that its role in "evolving the game can result in millions being even more being inspired to join in".



Hitting the spot

Concave boots have a unique concave-shaped element along the natural ridge line on top of the boot where the laces normally are. This concave-shaped element is made from a patented triple-density TPU (thermoplastic polyurethane) compound which "cups" the ball. This provides a larger interface with the ball in

Concave believes its football boots have the power to change the way football is played.

 Concave

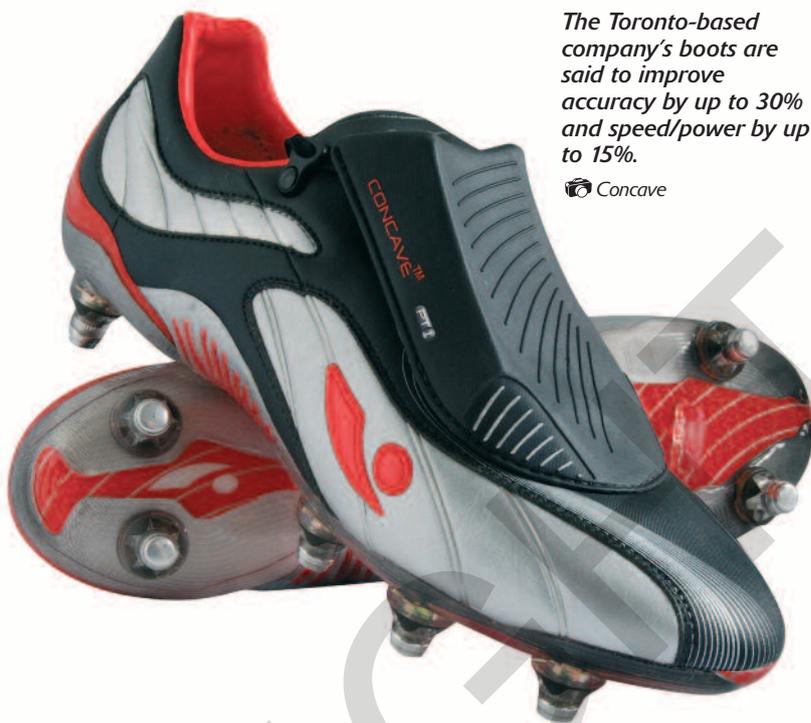
order to provide greater power, control and accuracy when kicking it. In a series of independent tests conducted by Monash University and instrument development group Invetech, Concave boots were found to improve accuracy by up to 30% and speed/power by up to 15%.

The company claims that most “mis-kicks”, or inaccurate kicks, occur when the ball does not strike the “sweet spot” of the boot—the area that provides optimum power and accuracy. In order to address this, the sweet spot on the Concave boot is approximately four times larger than that of a standard football boot, which offers greater accuracy, power and control, and a reduced chance of mis-kicking. This concept is similar to that applied to tennis racquets or golf clubs with oversized heads that provide larger sweet spot surface areas for greater contact with the ball. According to Concave, this translates to “better results on the pitch”.

Concave’s vice president, business development, Dave Frederick, says: “The real key attribute is the increase in power due to the enlarged sweet spot on the top of the shoe. People who have tested it have all come back recognising the increase in power. It also offers increased accuracy, although this is a little tougher to quantify. It corrects mis-kicks and brings the ball to the centre of the foot.”

Of course, the ball will not always land on the player’s sweet spot. So what would happen if the player strikes the ball with the side of the foot, or anywhere else on the boot? According to the company, independent player testing found that “the integration of the Concave element into the boot instep allows for flexibility of kicking on and off the Concave element”. However, if the ball strikes an area away from the sweet spot or the instep, it will have the same effect as a standard football boot.

In terms of injury, the concave element is said to offer greater protection for the metatarsal



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region of the foot, one that often causes problems for footballers. “Protection comes from the piece on the top of the shoe which, admittedly, was not the goal of the design, but the secondary benefit is that the piece on top gives it rigidity,” says Mr Frederick. “If you get stepped on, you’re going to just walk away.”

The boot is also designed to offer comfort through the use of high-quality materials and because of cushioning in the heel area, the forefoot and above the stud configurations. Mr Frederick points out that: “Before you ever even strike a ball you’ve got to put it on your foot, and if it isn’t comfortable, you aren’t going to make it onto the pitch.” He explains that curvature in the sock liner is for added comfort, while the cushioning in the heel is made from a gel-like substance. “You could wear them for a whole training session and still feel comfortable,” he adds.



Concave has made some adjustments to its boot line for 2009 and will also be making its footwear more widely available.

 Concave

New for 2009

Until very recently, the PT-1 was only available in calf leather and in one colourway—a combination of black, red and silver. However, the company has launched various new styles for spring 2009. It has introduced a model that features kangaroo leather and has added new mid-range and entry-level models. Concave has added round moulded cleat outsoles to complement its screw-in studs and blades, and has also introduced new colourways, including black and white combinations.

Although the basic features are the same, one “pesky” design feature in particular has been corrected. While tests prior to the PT-1’s launch did not show up this flaw, a small number of customers discovered that the plastic eyelets in the lacing system occasionally snapped off. While those affected were given replacement boots, the firm has converted the eyelets to standard lace holes in order to permanently eliminate the problem.

Other key changes to the new line will include: a fully integrated concave upper element comprising one streamlined piece with a slightly lower profile and softer ridgelines than in the original design; a memory foam-like material to replace the TPU upper element, which provides greater flexibility; a weight reduction, achieved primarily through the change of material in the upper element; and comfort improvements, particularly to relieve pressure on toe joints.

“The most significant change is the change to the top piece of the shoe,” says Mr Frederick. “It’s been integrated into the upper of the shoe so that it flows from the laces down to the toe. With the 2008 version, the concave piece is stitched on and looks like a piece that’s been attached on. The 2009 version is seamless and blended.”

He explains that the material used in the top part is a bit softer and is similar to material used in motor cross racing to protect riders’ backs if they fall. “If you lay the shoe on a table it has a much lower profile, it’s more streamlined,” he says, adding that this gives the shoe an added aesthetic benefit. “With the 2008 version, the ridges are very pronounced. The 2009 ridges are very soft, it’s sleeker and gives a more refined look,” says Mr Frederick.

Widening its horizons

Concave has also decided make the football boots more widely available. Previously, the company sold the boots through a limited number of retailers, for example in the UK, the shoes were available only at JJB Sports. The boots will now be stocked by more retail outlets in North America, the UK and Ireland as well as in several online stores. The company is also establishing distribution channels in Germany, Austria, several Eastern European countries, Greece, the Middle East, South Africa and Australia.

Furthermore, later in the year, a full range of boots, including indoor flats and boots in junior and children’s sizes, will be released. According to Mr Frederick, the company has experienced a great deal of success among high-level club players in their teens. He explains that part of the reason for this is that they “aren’t totally wedded to” one particular brand. He adds that children’s shoes are likely to be successful for the same reason. “We get a lot of calls from parents asking for children’s sizes. In ’09 we’ll finally be able to access that part of the market.” 