Adidas Skeleton Pro shoe - developed from the athletic sprint spike.



Skeleton, the ultimate bone shaker



When it comes to winning Winter Olympic gold medals, Britain does not have much of a record. In fact, one has to go back to ice dancers Torvill and Dean for the last occasion. But things could change in February 2002 when the skeleton bobsled event returns to the programme. This daredevil sport - the idea of some well-to-do Britons and Americans with nothing better to do than look for thrills on the snow and ice of St. Moritz - has been around since the 1880s when they first thought of it. Then the term daredevil had rather a somewhat laid back and jaunty image for what today could be termed insanity on ice.

It did become an Olympic sport but made its last appearance in 1948. Now it's back.

Britain's leading exponent of skeleton describes it as head-first luge on a tea tray! The country's hot hope is a 27-year-old woman, Alex Coomber, already twice a World Cup title holder, who will be taking part in the inaugural women's competition at the Salt Lake games, but she can expect a strong challenge from another British 'slider', or driver, as well as a couple of Germans.

To compete, the exponent lies face down on a minimal bobsled - a skeleton - with his or her head a matter of a few centimetres off the ice and comes down the run at speeds up to 145 kph, when similar G-forces to those felt by fighter pilots can be experienced. It is perhaps not surprising that some of the technology which is being adapted into the construction of the 'tea tray' comes from the world of aircraft science.

The rules for participating in the Olympics are tough - only drivers who have taken part in at least five recognised international competitions spread over the two preceding racing seasons before the Winter Games and on at least three different tracks, all with ranking results, may take part at Salt Lake. Not many nations or athletes will qualify.

A concession to safety

The rules governing the bobsled itself are also very specific: it must be between 80-120cm long, 34-38 cm wide and between 8-20cm high. No spring, rubber, rubber-like or energy absorbing material may be used for runner suspensions, frame and/or for all other parts of the sled; to propel the sled, only the pushing force of the skeleton driver and the force of gravity is permitted; devices to assist steering or braking are prohibited. Fairings and spoilers are also prohibited. There are weight limitations too: maximum weight of the sled and driver including equipment must not exceed 115 kg (ladies: 92 kg). Missing weight may be added by ballast on the sled and must be securely fastened to the sled. Ballast attached to the driver's body is prohibited!

And, oh yes, the sled must be equipped with secure handles. Well, there had to be some concession to safety.

Even adidas concedes that skeleton is probably the wildest and most complex of all winter sports but it is the only company which has used this opportunity to develop and introduce the first ever shoe and racing suit specially designed for the skeleton athlete. Squeezing out extra speed for the slider was the motivation.

The basis for the adidas Skeleton Pro was its most innovative athletics sprint spike, first introduced for the Olympic Summer Games in Sydney after more than four years of research and development. Nevertheless, a completely new spikeplate was developed featuring a skeleton-specific spike configuration. The new spikeplate is made of Vestamid (a nylon/polyamide mixture) that retains its characteristics at extremely low temperatures. The shoe also features a skeleton-specific abrasion-resistant toecap for added protection while steering. An internal lacing system provides for individual fit, and a lace cover improves the shoe's aerodynamic characteristics. An extra lightweight thermal layer is added for better protection against cold. The Skeleton Pro is one of the most complex winter sports shoes the brand has ever developed, made by hand exclusively at its own footwear factory in Scheinfeld, Germany.

On the apparel side, innovation has also been a key word. Starting with the material, after having tested several alternatives both in the wind tunnel and in the ice canal, adidas decided on a triple-layer laminate. The outer material provides for the best possible aerodynamic characteristics and the middle layer is wind-repellent. The cuts and seams are engineered so that the garment is practically wrinkle-free. Seams are specifically placed to ensure that they do not reduce the aerodynamic characteristics of the suit. For example, there are no shoulder seams on this suit. At exposed seams, a extra-flat seam technology is being used to improve aerodynamics. Special inserts are introduced at strategic places for better movement while launching the sled. The suit will be custom-made for each athlete for the Olympic Winter Games.

While this might be one of the more esoteric sports in the programme there can be little doubt that it will get the adrenalin flowing - even among those watching at a safe distance on TV!

David Buirski