How the new Olympic swimsuit gives athletes an edge

Speedo's new bodysuit, the Fastskin FSII, helps swimmers increase their speed by reducing drag after a dive or turn. The different fabrics, designed to work like a shark's skin, anticipate change in the flow of water along the swimmer's body. Suits are gender and stroke specific and can reduce drag by up to 4% more than the ones worn in Sydney.

Fastskin

Mimics the rough shark denticles, tooth-like scales that reduce drag along key areas of the body. Fabric compresses the body to stop skin and muscle vibration. This saves energy and reduces drag at faster speeds.

Flexskin

Smooth surface allows more freedom of motion and creates less drag at slower speeds.

Titanium silicon scales

When swimming, Flexskin caused athletes to lose their feel of the water. Silicon scales applied to the inner forearm let swimmers regain their grip.

13 different types of suits: 6 for men, 7 for women
Backstroke suit: Zips in front, rather than back

- Breaststroke: Fabric along hips creates more
- freedom of motion when kicking.

Source: Speedo