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The Goods

For Skiers, Fashion Follows Function

By **BRENDAN I. KOERNER**

THE most-discussed Winter Olympics garb is always that of female figure skaters, as sportswriters titter over skirt length and sequin count. Far fewer words, however, are spent meditating on the skin-tight suits worn by alpine skiers. But in a sport where a few hundredths of a second can separate gold from also-ran — and, in turn, determine whether a post-Olympics career will include endorsing pricey ski equipment or a local used-car lot — aerodynamic clothing can make a real difference.

With that harsh reality in mind, the American, Canadian and Austrian skiers at this year's games — which begin on Friday in Turin, Italy — will be wearing new suits developed by Spyder Active Sports of Boulder, Colo. The suits look similar to those worn by American racers at the 2002 Winter Olympics; they are all shiny and stretchy. A microscope is required, literally, to spot some of the improvements over Spyder's previous version.

"The fabric that we selected has a smooth surface, with a silver thread on the backing," said Phil Shettig, Spyder's director of product development. "That thread is knit in a specific geometric pattern, so when the suit is worn, you have very even distribution of the pattern." That evenness, Mr. Shettig said, is the key to minimizing wind resistance.

Selecting the fabric was no snap decision. Starting in the summer of 2004, Spyder's researchers experimented with a variety of textures. "We looked at things like how the skin of a shark works, and at golf balls and how dimpling may affect aerodynamics," Mr. Shettig said.

Spyder eventually came up with five different fabrics. Prototype swatches were stretched on elliptical pieces of metal and tested in wind tunnels, including ones owned by [General Motors](#) and BMW, as well as a facility at the University of Buffalo normally used to analyze the properties of ballistic missiles.

Once the winning fabric was chosen, Spyder had to make sure that it could be made to conform to the specifications of the International Ski Federation, the sport's governing body. The organization, for example, examines suits to ensure that, for safety reasons, a small amount of air is able to permeate the fabric. An aluminum disc is attached to a leg on each suit that passes the federation's check, to certify its suitability for competition.

The suits for downhill skiers are spare, but those for slalom racers — who whack into gates at upwards of 70 miles an hour — feature light padding made from d3o, an elastomeric compound that congeals in response to impact. Afterward, the d3o goes limp, allowing skiers a greater range of motion than if they were armored with heavy foam.

Mr. Shettig stressed that the Spyder suit was designed for the elite athlete, not the skier whose greatest feat is snowplowing down an intermediate slope. But he also acknowledged that "there's always a

demand for these in an Olympic year," which is why the suits will go on sale to the public this fall. Dressing like an Olympic hero will be expensive: the downhill suit will sell for \$800, and the padded slalom suit will cost \$100 more. That may be a steep price for a souvenir of athletic glory, however effective it is at speeding the voyage from chilly mountaintop to chalet bar.

On the bright side, \$800 or \$900 may be cheaper than what a replica of [Michelle Kwan's](#) figure-skating dress will cost after Turin.