Faster, Faster, Faster

Thanks to faster ice and new, low-drag skating suits, many records could fall this month at the Utah Olympic Oval.

THE SPEED SUIT
Racing With the Wind

Nike’s Swift Skin suit is made of six high-tech fabrics strategically placed to cut down on friction and wind resistance. Engineers employed wind-tunnel tests to optimize aerodynamics.

SEAM PLACEMENT
The suit’s stitches are aligned along the paths of air flow to prevent drag.

THE NEW RINK
Custom-Tailored Ice

The Utah Olympic Oval allows unprecedented control of ice temperature. The ice can be heated to a softer consistency for traction in shorter races, and cooled harder for longer ones, where glide is needed. The secret is in eliminating trapped air bubbles, which make ice less responsive to temperature changes.

TOP LAYERS
The top sheet is applied as hot water, which contains less dissolved air.

MIDDLE LAYERS
The middle sheet is built up from numerous thin layers, which freeze faster, before air can be trapped.

Beneath the Ice

REFRIGERATION PIPES
Thirty-three miles in all, they circulate chilled salt water to cool the ice sheet.

LUBRICANT
It helps buffer against expansions and contractions that could cause damage to the rink.

HEATING TUBES
They keep the base from freezing, which could crack the concrete.

Wake Reduction
A When a skater’s forearms or lower legs slice through the air, a low-pressure wake, known as pressure drag, is formed. This can slow the skater.

TEXTURED FABRIC
B Coating the arm in rougher material breaks up the wake, as with dimples on a golf ball, freeing the skater to move faster.