

Faster, Faster, Faster

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

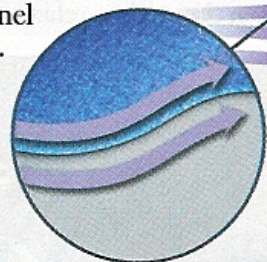
THE SPEED SUIT

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.



Air flow

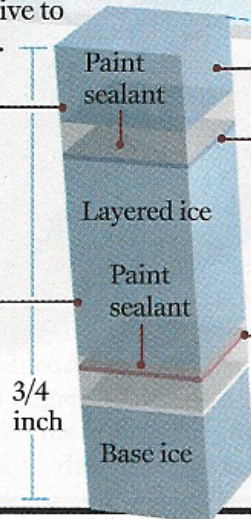
THE NEW RINK

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.



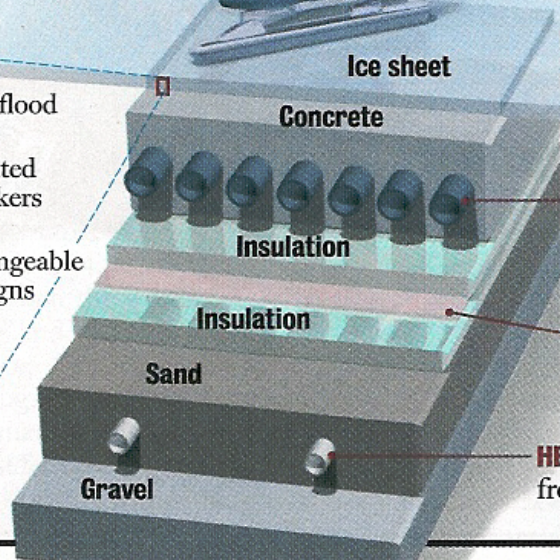
Hot flood

Painted markers

Changeable designs

3/4 inch

Base ice



Ice sheet

21 inches

Concrete

Insulation

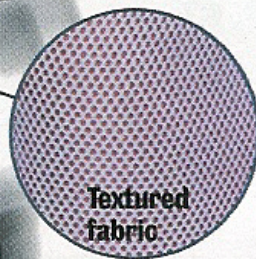
Insulation

Sand

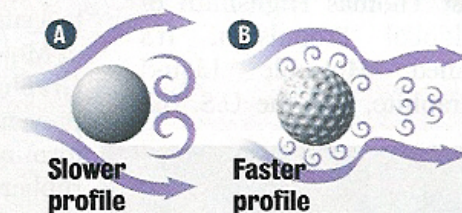
Gravel

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



A

Slower profile

B

Faster profile

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.

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.