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## Home&Garden

MATERIAL WORLD *By Zahid Sardar*

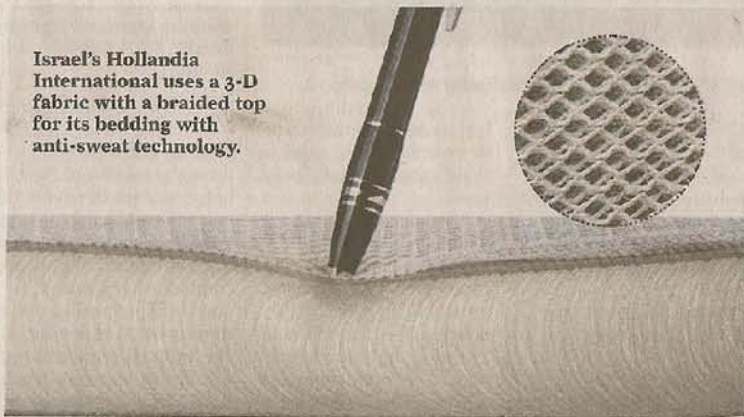
### Cool as the other side of the pillow

Long summer days may not be the only reason you might be sleeping less. New synthetic bedding materials such as memory foam that make comfortable mattresses more affordable have a drawback: They don't breathe and are not absorbent.

Heat trapped in solid-foam mattresses and pillows can trigger sweating. Excessive humidity can cause rheumatic pain.

Designers in Germany, Italy and Israel have solved those problems with ingenious, thick, quilted woven cotton or synthetic 3-D fabrics (created originally for sportswear) wrapped around or fused to foam mattresses, pillows or mattress toppers. If you were to cut through the 3-D fabric or top layer you'd see it is made of

Israel's Hollandia International uses a 3-D fabric with a braided top for its bedding with anti-sweat technology.



Hollandia International

vertical strands of synthetic fibers with air "chimneys" between them that allow heat to flow up and out. Some are braided together at the top to create more openings and air channels between the mattress and user.

Bedding made with

this simple anti-sweat technology is as effective as beds made of cotton and down. Several products on the market use slightly different 3-D fabrics. Italy's Magniflex comfort pillows have Coolmax, with a hexagonal fiber; Israel's Hollandia International uses a

3-D fabric with a braided top; Therapedic uses Outlast fabric, a woven cotton and viscose version created for NASA, to achieve the same cooling effects for its bedding.

*E-mail ideas for Material World to Zahid Sardar at [home@sfbchronicle.com](mailto:home@sfbchronicle.com).*

#### At a glance

**Expert opinion:** Avi Barssessat, CEO of Hollandia, based in Tel Aviv, has adapted underwear fabric from Germany for mattresses that are cooler and more comfortable. "We found a material at our underwear manufacturers that could release body heat and developed it as a 3-D polyester mesh that also acts like a spacer fabric for beds," he says. "But you have to avoid using polyester-blend bed linens," he says. "They won't breathe."

Gerry Borreggine, president of Therapedic sleep products, deployed Outlast sports fabric for mattresses. "It was developed for NASA and the army," he says. The cotton and viscose fabric is woven so it repels moisture and heat buildup. "You can remove it to wash it. That's healthy."

Andrea Mugnai, the general manager of Magniflex USA, adopted a Dupont design — Coolmax cooling fabric — for its open-cell foam core mattresses before Nike or Adidas used it for sweat-free shoes.

**Pros:** Magniflex's ergonomically shaped plant-derived foam pillows are covered with a removable 3-D Coolmax fabric that can be washed and is made of recyclable materials. Hollandia International makes mattresses with washable 3D fabric covers in several colors.

**Cons:** Mattress toppers by Therapedic made of memory foam with vertical fibers and wrapped in a cotton antimildew cover have a slight odor when new. Like other foams, the cores are not machine washable.

**Prices:** Therapedic mattress toppers with Outlast fabric: \$149-\$300 (available at Bed, Bath and Beyond). Hollandia International 3-D mattresses with 3-D fabric and foundations range from \$2,500-\$6,000; standard pillow with 3-D fabric and core: \$149. Magniflex Comfort pillows: \$100 and up (available at Ergo Sleep Systems in Berkeley).

**Resources:** [therapedic.com](http://therapedic.com); [magniflex.com](http://magniflex.com); [HollandiaInternational.com](http://HollandiaInternational.com).