



THERMOREGULATORY SLEEP SCIENCE

The Science of Cool

How MLILY products fight against hot sleep

As temperatures climb, so does the need for real cooling, not just a claim on the label. MLILY USA engineers sleep technology that actively regulates heat and moisture, keeping your customers comfortable all August long and beyond.

The Core Issue

Scientific research shows that human core body temperature must decrease by 1–2°F to fall asleep and stay in deep, restorative REM stages. When traditional mattresses, pillows and bedding trap natural body heat, they act as thermal insulators. This heat retention can keep the body from cooling down, triggering night sweats, tossing and turning, and micro-awakenings throughout the night.

Mattresses & Sleep Systems

WellFlex ICE Memory Foam Mattress

PCM-Coated Threads, ActiveTemp PCM & BioBreeze Foam

THE ISSUE

Dense memory foam can trap body heat over the course of the night, causing sleepers to wake up hot.

HOW MLILY SOLVES IT

An Enhanced Cooling Knit Cover with temperature-regulating PCM-coated threads pulls heat away from the body. Directly underneath, a 1.5" layer of Gel AeroFusion Memory Foam with ActiveTemp PCM absorbs and stores body heat, while eco-friendly BioBreeze memory foam delivers sustainable temperature regulation.

Midnight ICE Hybrid Mattress

Copper-Gel Infused Memory Foam & Pocketed Springs

THE ISSUE

Pressure zones on hybrid surfaces create high-pressure contact points that lock in warm air.

HOW MLILY SOLVES IT

1.5" of Copper Gel AeroFusion Memory Foam with ActiveTemp PCM sits directly below an ICE Knit fabric cover. Highly conductive copper gel particles draw heat away from pressure points and disperse it through individually pocketed springs and breathable AdaptiFoam.

PowerCool Mattress + PowerCool Adjustable Base

Active Base Fan System & Ventilated Core

THE ISSUE	For naturally hot sleepers, passive cooling gels and foams can eventually saturate with heat and stop cooling.
HOW MLILY SOLVES IT	This active system pairs an 11.5" mattress with an adjustable base featuring a built-in mechanical fan system. The fans physically push fresh, cool air upward through dedicated ventilation channels in the mattress core, continuously clearing out trapped heat and humidity.

Cooling Pillows

PowerCool Classic Pillow

Ice-Touch Fabric & Ventilated Gel AeroFusion Memory Foam

THE ISSUE	The head and neck release a high percentage of body heat, turning standard pillows into warm, stuffy cushions.
HOW MLILY SOLVES IT	An instant-chill cooling knit cover delivers an immediate ice-touch feel. The core is ventilated Gel AeroFusion Memory Foam with a 360° breathable design that allows natural air circulation to dissipate heat.

PowerCool Shoulder Pillow

Shoulder Cutout Design & Ventilated Gel Memory Foam

THE ISSUE	Side sleepers face shoulder bunching and neck misalignment, which restricts airflow and traps heat.
HOW MLILY SOLVES IT	An ergonomic shoulder cutout lets the shoulder rest naturally to improve neck alignment. A cooling knit cover and ventilated Gel AeroFusion foam core use a curved groove to support the head while releasing heat.

Harmony Cool Pillow

Shredded Memory Foam Core & Ice Silk Cover

THE ISSUE	Solid-core pillows can feel restrictive and trap warm, stagnant pockets of air.
HOW MLILY SOLVES IT	This shapeable, plush pillow features a shredded memory foam core wrapped in a cooling ice silk cover. The shredded interior creates natural void spaces that allow air to pass through freely, letting sleepers customize loft while maximizing breathability.

Cooling Accessories & Bedding

Sierra Topper (2.5-Inch Profile)

2.5" Gel Infused Foam & 3D Mesh Side Panels

THE ISSUE	Older or firm mattresses often feel hot and lack breathability, but replacing a mattress can be expensive.
HOW MLILY SOLVES IT	This 2.5" dual-layer memory foam topper offers a cost-effective cooling upgrade, with a cooling gel infusion paired with highly breathable 3D mesh side panels that actively enhance perimeter airflow.

Super Cooling Duvet

Nylon Mica Fabric, Sorona Polyester & Moisture-Wicking Lyocell

THE ISSUE	Traditional heavy comforters trap warm air above the sleeper, creating a sticky, humid greenhouse effect.
HOW MLILY SOLVES IT	Crafted from a premium Nylon Mica and Spandex blend that feels instantly cool and silky to the touch. The internal fill blends Sorona Polyester and moisture-absorbing Lyocell (Clima) fibers to actively wick away moisture and keep sleepers dry.

5-Sided Super Cooling Mattress Protector

Heat-Dissipating Polyethylene Cooling Fibers

THE ISSUE	Many waterproof mattress protectors rely on non-breathable plastic barriers that lock in body heat.
HOW MLILY SOLVES IT	This protector uses specialized cooling fibers that actively dissipate heat across a continuously cool sleep surface, providing certified waterproof top and side protection against spills and allergens without trapping heat – fitting mattresses up to 18" deep.

The Takeaway

Every product in the MLILY cooling lineup targets a different point where heat builds up: the cover, the core, the pressure points and the layers above the sleeper. Together they form a complete sleep system built to keep customers cool from lights out to morning.