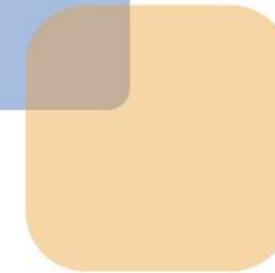




 **OUTSTANDING NEW MATERIALS**
AIR FIBER MATTRESS



NINGBO OUTSTANDING NEW MATERIAL CO., LTD.

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NINGBO OUTSTANDING NEW MATERIAL CO., LTD

COMPANY PROFILE

Ningbo Outstanding New Material Co., Ltd. originated from the spinning project team of Ningbo Huaye Material Technology Co., Ltd., founded in 2004.

In 2009, we introduced three air-fiber production lines and became the first domestic manufacturer of air fiber in China.

In 2012, our products were exported to Nishikawa Co., Ltd. in Japan and entered more than 150 Ito-Yokado supermarkets. Since then, markets in South Korea, Southeast Asia, Taiwan, Hong Kong, and other regions have also been opened.

In 2015, the company jointly established a Mattress Core Laboratory with Dow Chemical, achieving major progress in improving process quality and reducing production costs.

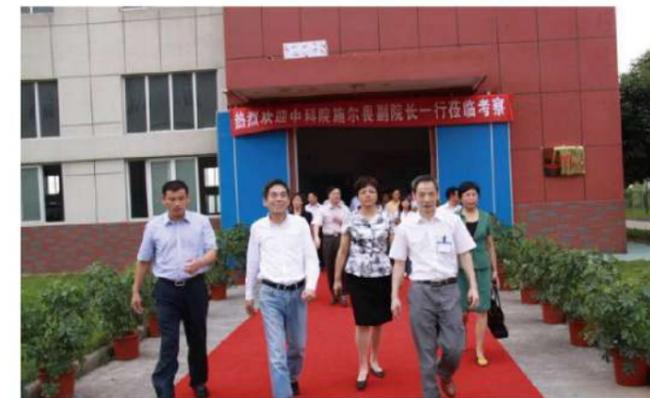
We hold multiple inventions and utility model patents, including "3D-printed air-fiber filament" and "deionized-water cooling forming process." The company is capable of compounding and processing a wide range of polymer materials such as EVA, POE, PE, TPU and TPEE.

Our advancements have enabled the development of innovative air-fiber core materials for industries including home textiles and furniture, medical mattresses, pet products, elderly-care products, and infant and children's products.



Research and Development

Close cooperation with Ningbo Institute of Materials
Chinese Academy of Sciences



We are researching mattress core materials by cooperating with world-renowned technology companies like Dow

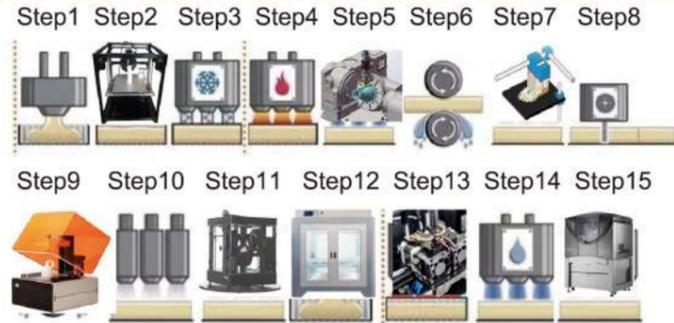
Dow Mattress Core Material Laboratory



Ningbo Outstanding New Material Co., Ltd

Original Shaping Technology

3D - Print Reticulum Tech



1. Formulation Generation
2. Extrusion Stretch Yarn
3. Draft Stretch Yarn
4. Silk Diameter Setting
5. Thickness Setting
6. Density Setting
7. Water Cooling Setting
8. Air Cooling Setting
9. Rough Cutting
10. Drying
11. Fine Cutting
12. Heating
13. Finished Product Shaping
14. Molding
15. Packaging+ clean".

Deionized Water Cooling Tech

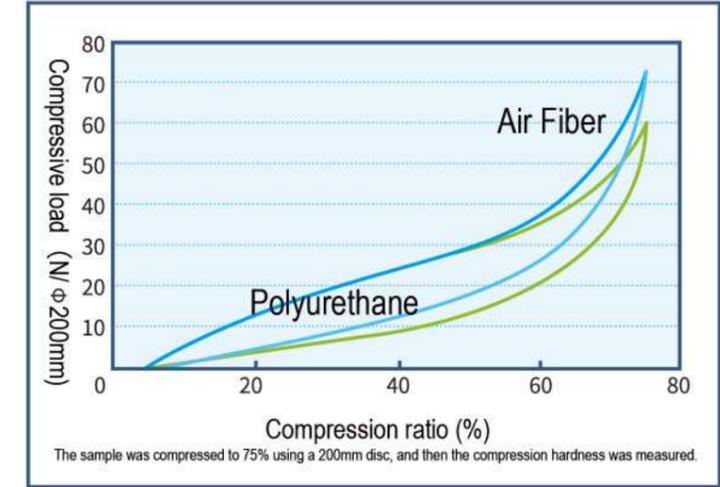
The Outstanding air fiber molding process involves 15 steps, including high-temperature sterilization at over 200 degrees Celsius and deionized water cooling to shape the elastic air fibers. It meets food-grade hygiene standards, maintains its elasticity for a long time, and will never attract insects. This creates a mattress core material that combines "scientific support + breathability + cleanliness" in one.

Our Mission, Vision and Values

- Outstanding mission: to manufacture outstanding mattress core materials.
- Outstanding vision: every piece of mattress in the world use our core materials!
- Outstanding values: conformity of profession and conduct, win-win and sharing.

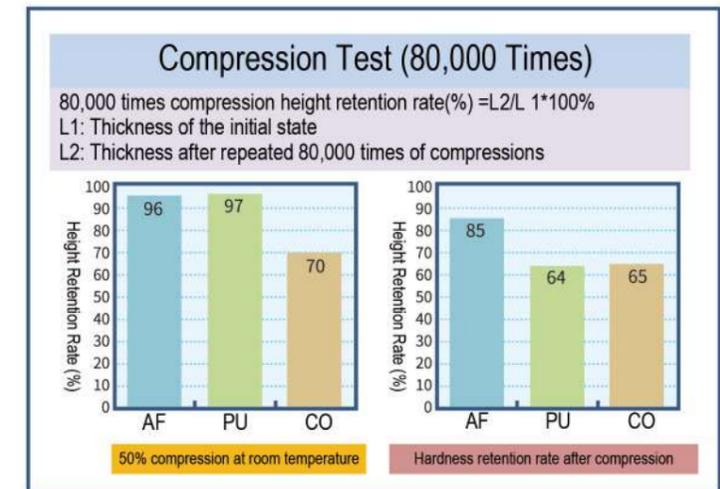
Compressibility

Air fiber is a type of cushioning material with low hysteresis loss and high resilience. When used in mattresses and mattress pads, it is a very easy-to-use cushioning material for turning over.



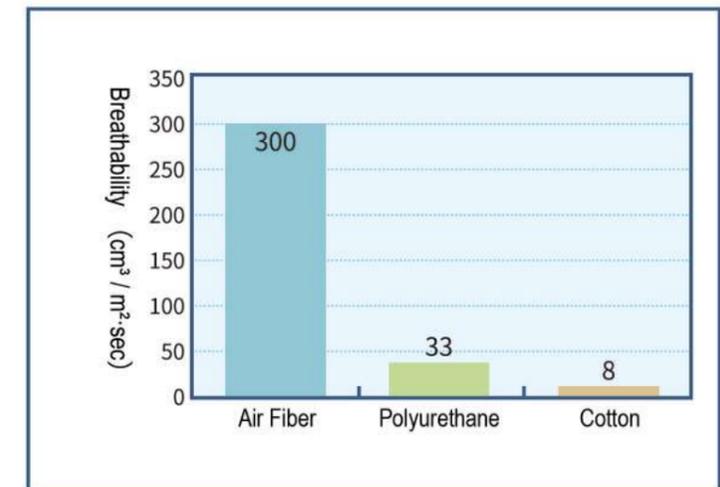
Durability

Air fiber is a type of cushioning material with low hysteresis loss and high resilience. When used in mattresses and mattress pads, it is a very easy-to-use cushioning material for turning over.



Breathability

Compared with polyurethane and hard cotton, air fiber has strong air



Dow Silvadur™ Antimicrobial Technology

Powered by Dow's Silvadur™ antimicrobial technology, an R&D 100 Award-winning innovation, this advanced solution provides intelligent microbial control. Using silver-ion technology, Silvadur™ releases a controlled, low concentration of silver ions onto the fiber surface to inhibit odor-causing bacteria. By capturing odors and preventing the growth of bacteria and mold, the Silvadur™ silver-polymer system acts quickly and effectively to maintain long-lasting freshness and hygiene.



Fully Washable Core Inhibits Mites and Bacteria

Engineered with Dow's advanced air-fiber technology, the material is formed through a physical thermal bonding process in water. It does not absorb moisture, offers excellent water resistance, and maintains high vapor permeability. The entire mattress core is fully washable, allowing dirt and impurities to be flushed away with water without residue. This ensures deep hygienic cleaning and effectively prevents the growth of mites and bacteria.



Antibacteria

Air-fiber has a continuous fiber loop structure, thus preventing the generation of fiber waste and reducing the likelihood of dust mite infestation.



Inhibition of Mites

Furthermore, it possesses excellent antibacterial properties that meet national standards.



Environmental Protection

Air fiber can be recycled in two different ways.

1. Material Recycling



2. Thermal Energy Recovery



Low Toxicity Under Combustion

	Air Fiber	Polyurethane	Cotton
Carbon Monoxide CO	269	1002	235
Carbon Dioxide CO2	1083	357	1683
Hydrogen Cyanide HCN	Not Detected	11	Not Detected
Hydrogen Chloride HCl	Not Detected	1,001 ppm	Not Detected
Nitric Oxides NOX	Not Detected	0.3	46
Sulfur Oxides SOX	Not Detected	0.9 ppm	Not Detected
Ammonia NH3	0.7 ppm	5.3	1 ppm

Based on JIS K 7217 (750°C * 0.5 L / min air * 10 min)
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- Since Air Fiber is composed of polyester elastomer structure, it will not produce toxic gases such as hydrochloric acid during combustion.
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Comparison of the performance Different Core Materials

Comparison Category		Air Fiber	3D Mesh	PU Foam	Sponge	Latex	Polyester Fiber
Supportive	Fit to Body Contours	✓	✓	✓	✓	✓	✓
	Balances Firmness	✓	✓	✗	✓	✗	✗
	Adapts to Resilience	✓	✓	✗	✓	✗	✗
	Durability	✓	✓	✗	✓	✗	✗
	Zoning Configuration	✓	✓	✗	✓	✗	✓
	Moisture-Wicking Performance	✓	✓	✗	✓	✗	✓
Air Permeability	Noise	✓	✓	✓	✗	✓	✓
	Breathability	✓	✓	✓	✓	✓	✗
Cleanness	Air Permeability Ratio	✓	✓	✗	✗	✗	✗
	Harmful Substances	✓	✓	✗	✗	✗	✗
	Dust Mites	✓	✗	✗	✓	✗	✗
	Washable	✓	✓	✗	✓	✗	✗

Raw Materials



Thermoplastic elastomers developed by Dow Chemical in the United States possess the properties of both rubber and engineering plastics, making them durable and easy to process.

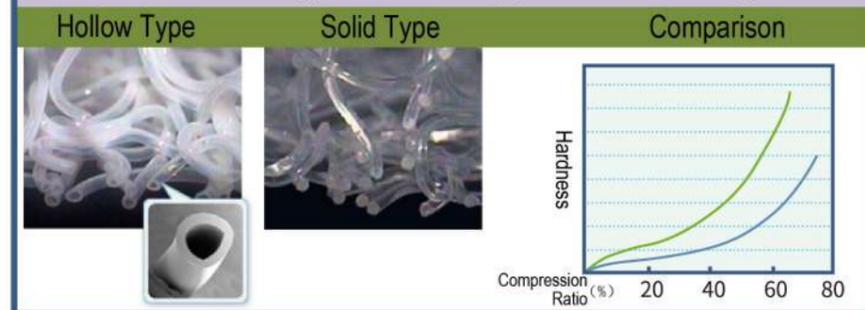
Various thermoplastic elastomers with different properties are available, such as PE/POE/TPU/TPEE/EVA, etc.

Conventional type

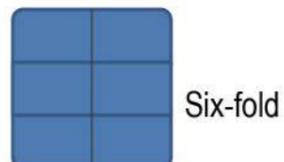
- Soft type
- Flame retardant type
- Hard type
- Colored type

Cross Section

The cross-sectional shape of the air fiber has two types: hollow and solid. Its hollow type can also support the same weight.



Partition Design



Three-Zone Ergonomic Design with High-Resilience Spinal Support

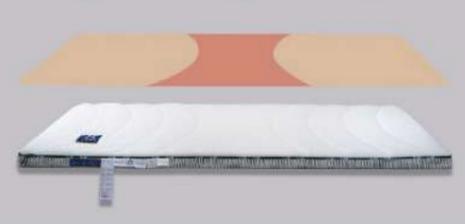
Featuring three internal core sections with three firmness levels.

A. For side sleepers: The head and shoulder zone is designed with a softer firmness to relieve pressure on the shoulders during side sleeping.

B. For back sleepers: The head and shoulder zone provides standard firmness to stably support the upper back, while the shoulder-lumbar zone is reinforced with double firmness to deliver strong lumbar spine support.

With flexible firmness combinations tailored to different sleeping positions, the mattress features a foldable design for easy movement, portability, and convenient cleaning.

Head Zone	Lumbar Zone	Leg Zone
Standard firmness Stable support for the upper back and shoulders	Double-reinforced firmness Powerful support for the lumbar spine	Relatively softer firmness Balances overall body pressure distribution



Size and Thickness

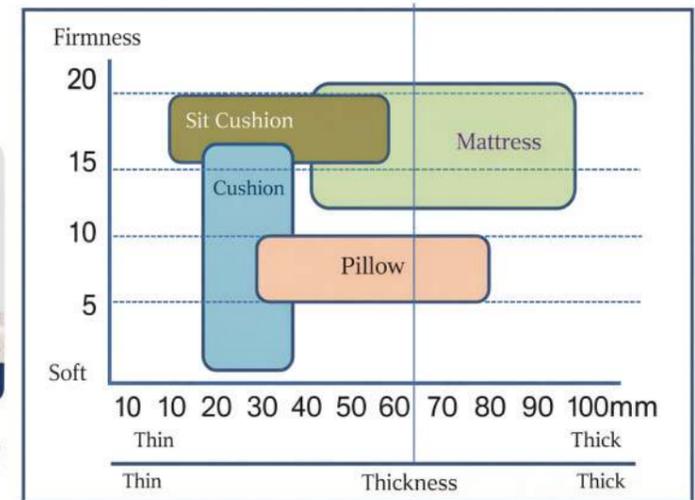
By adjusting density, thickness, and dimensions, the product can be customized to meet your specific preferences and design requirements.

Density: 30–150 kg/m³, Thickness: 15–200 mm, Width: 10–200 cm, Length: Continuous, no limitation



Softness, Hardness and Shape

The mattress is neither too soft nor too hard



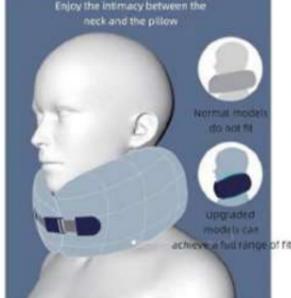
- Air fiber is manufactured in sheet form, but it can also be shaped and processed in subsequent processes.

Stereotype Designs

• Various shapes can be designed and formed by hot stamping



Various shapes can be designed and formed by hot stamping.



You can choose the height you like
2 height options

It is recommended to buy 9cm for weight 67kg
It is recommended to buy 11cm for weight 70kg



Shape specification: 67cm*37cm*9cm
Shape specification: 67cm*37cm*11cm

You can sleep on both ends
high or low

The height can be adjusted according to personal needs

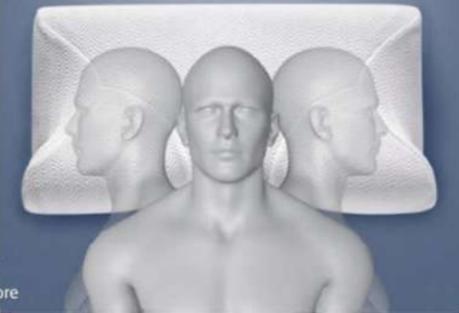


Basic pillow



Free disassembly and assembly of pillow core

Enlarge the pillow surface
you can turn over more casually



Curved fit to support waist and back
Multi-point support and scientific division
can closely fit the physiological curve

Achieve full relaxation



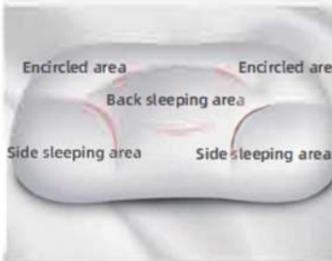
Wrapped curved support
Strong support

Technology Intelligent Partition
Smart partitioning scheme enables
frequent changes of sleeping postures and
prevents facial squeezing



Back sleep mode Side sleep mode

5 sleeping areas
The new definition of the pillow



Back of neck traction
Water drop shaped neck pillow

It is specially designed for the cervical spine
to help stretch the cervical spine.



Regular More suitable for men
Lower More suitable for women



Medical Nursing Mattress



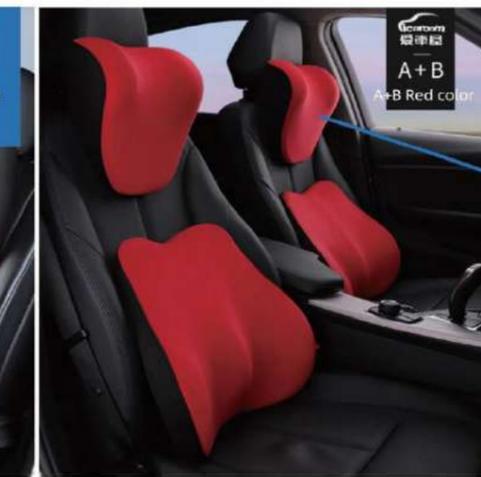
It can be adjusted to the height of the cervical spine, and you will find that your neck does not hurt when you wake up.

It can adjust the height (7-12cm) by inflating and deflating the neck

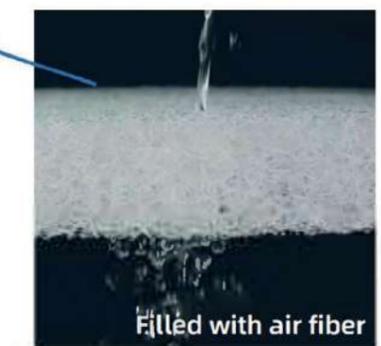


Stereotype Designs

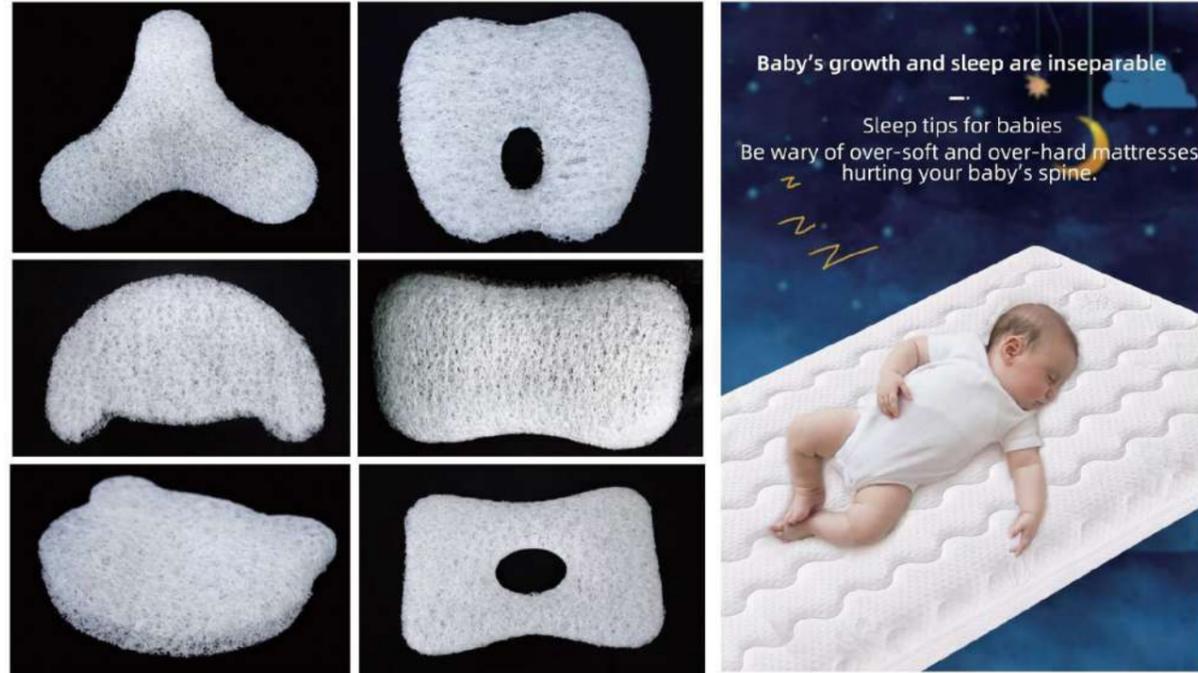
The upper and lower parts are self-contained. It fits the human head, neck, shoulders, waist and spine. It is highly breathable and can reduce the pressure of the ride.



Breathable and fit
Can be washed directly with water



Baby Pillow



Baby's growth and sleep are inseparable

Sleep tips for babies
Be wary of over-soft and over-hard mattresses hurting your baby's spine.

Baby Mattress



Baby's growth and sleep are inseparable

Sleep tips for babies
Be wary of over-soft and over-hard mattresses hurting your baby's spine.

Who sleeps with you
Do you know?

Babies shouldn't use palm mats

Protect the spine from 0 years old.

10cm*10cm

Office Nap Mat



Office lunch break

Dare to dream of life
在闲适的时光里，感受恬淡的心境

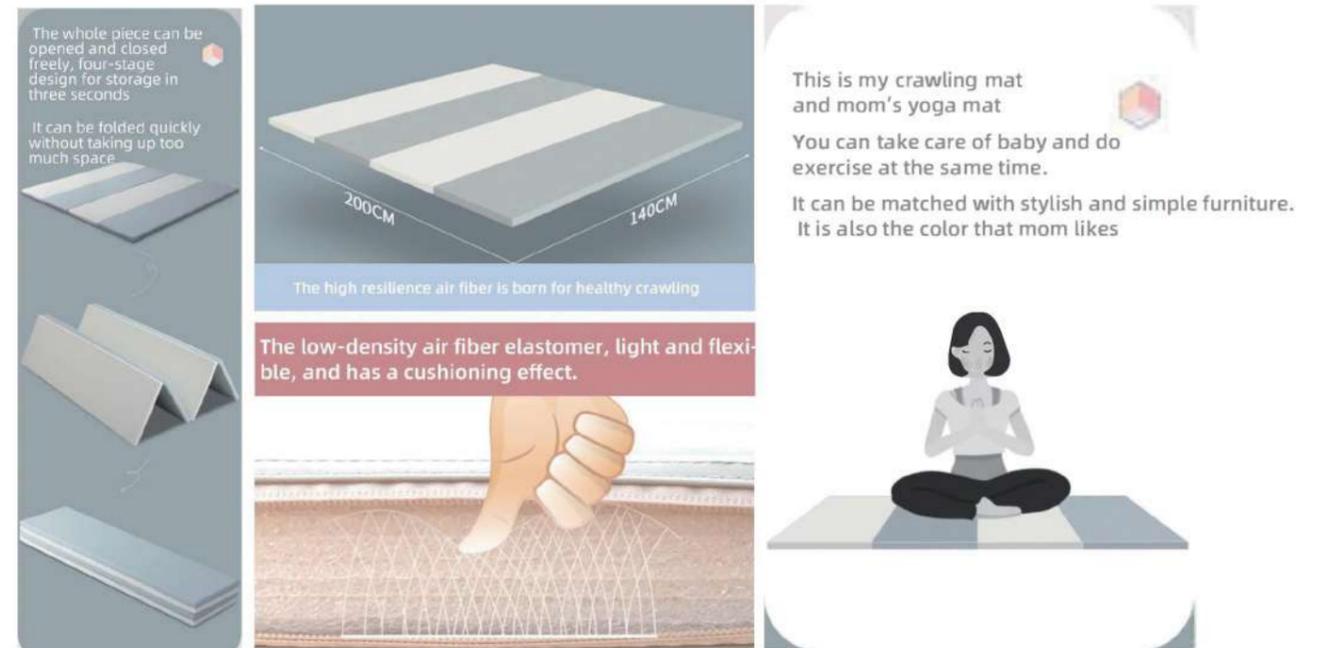
The 16cm pillow height is just right to protect the neck

Scientific design based on ergonomics
16cm heightening design 16°

Reduce pressure on the cervical spine and sleep more easily

Natural and healthy cervical curvature
Excessive curvature of the cervical spine

Climbing Mat/Yoga Mat



The whole piece can be opened and closed freely, four-stage design for storage in three seconds

It can be folded quickly without taking up too much space

200CM
140CM

The high resilience air fiber is born for healthy crawling

The low-density air fiber elastomer, light and flexible, and has a cushioning effect.

This is my crawling mat and mom's yoga mat

You can take care of baby and do exercise at the same time.

It can be matched with stylish and simple furniture. It is also the color that mom likes

Mattress

DETAIL DISPLAY



3D mesh breathable fabric has high breathability



Three kinds of softness can support the body to avoid back pain

Authoritative testing Quality Assurance

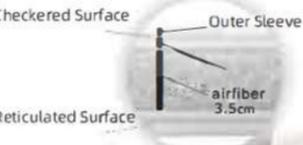


Dow Chemical Imported Material Food Grade Resin Environmentally Friendly Core Material

Mattress design

Put it on your bed to improve the quality of sleep





Checked Surface

Outer Sleeve

airfiber 3.5cm

Reticulated Surface

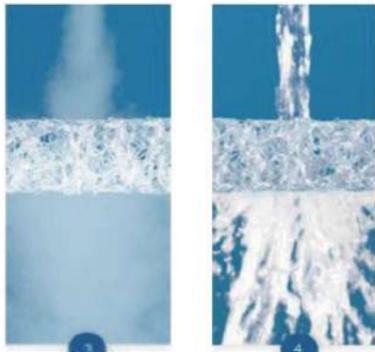


Product Features



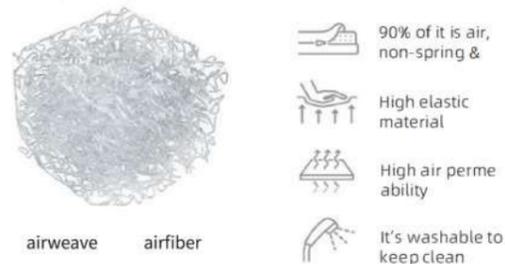
High resilience to help you easily to turn over
The air-fiber developed with unique Japanese technology has high resilience and can adapt to every movement

Outstanding body pressure dispersion ability
It can fully support the waist and reduce the burden on the back and help you maintain an ideal sleeping posture.



Excellent breathability, warm in winter and cool in summer
In summer, it can quickly keep sweat without sultry dampness; in winter, it has an excellent warmth retention

The inner core is washable to keep it clean in summer
It uses an innovative resin material and is washable so as to keep it clean

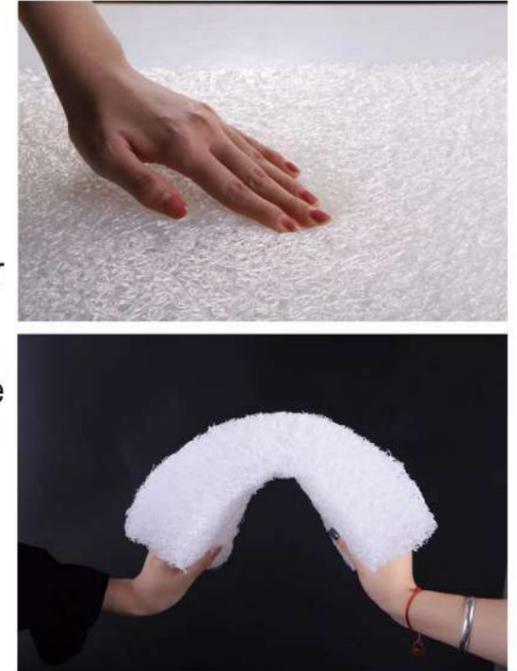


Air Fiber With Infinite Possibilities

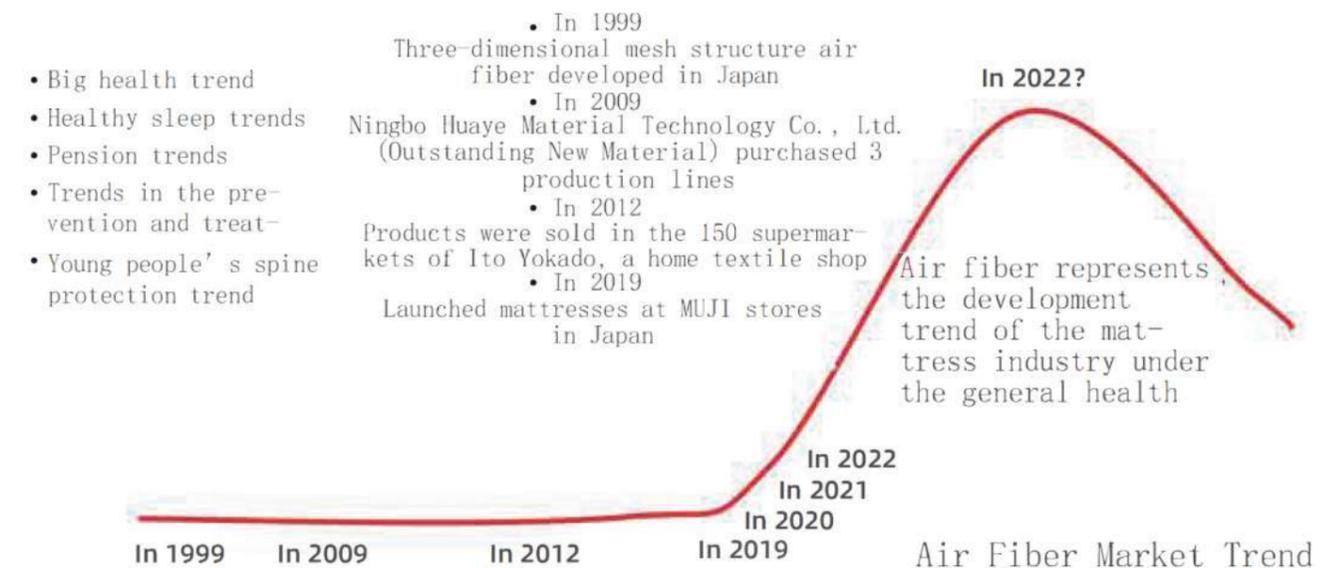
Air Fiber is a durable, washable cushioning material formed by a tangled, three-dimensional filament structure. Its open mesh resembles a resilient, porous network that provides excellent airflow and support.

Air Fiber offers strong air permeability, cushioning ability, water permeability, long-term durability, environmental safety, and antibacterial performance. Mattresses and pillows made with Air Fiber remain breathable, easy to flip, and maintain a consistently comfortable sleeping environment. The material is also easy to clean and meets national antibacterial performance standards, making it suitable for hospitals and elderly-care facilities.

In seating applications, Air Fiber is used for high-durability automotive and public-transportation seats. It is also adopted in art and design projects for its unique structural qualities. Overall, Air Fiber is a highly effective cushioning and shock-absorbing material with wide application potential.



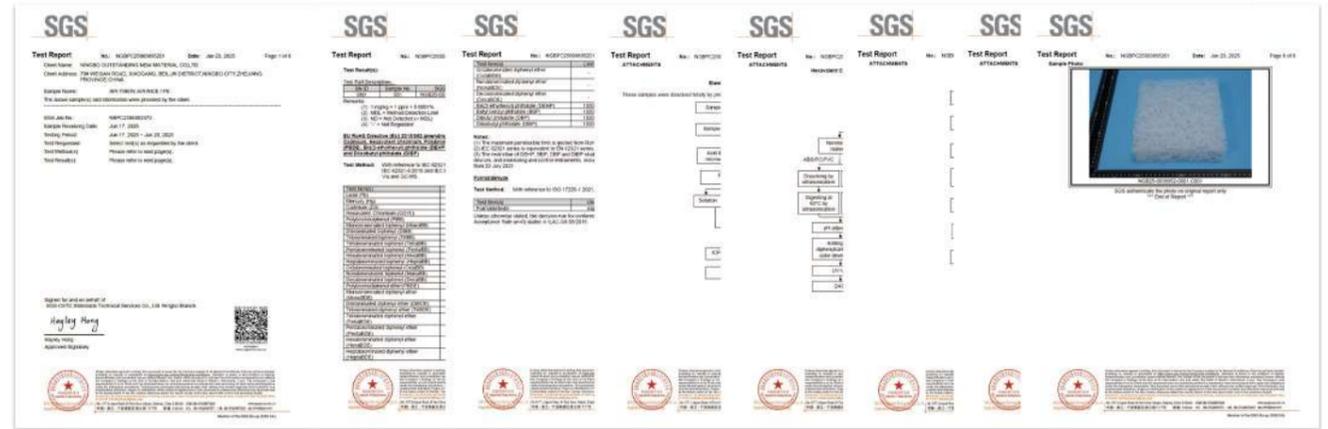
Air Fiber Market Trend



Certificates



Authoritative Certifications



Formaldehyde and RoHS Compliance Test Report



Food-Grade Material Test Report



Antibacterial Test Report