



中科海势
Sycoretec CAS Co., Ltd.

ITMF START-UP AWARD 2024

SYCORE-TEX[®]

SYCORE-TEX

TOPOLOGICAL SOFTGEL MATERIALS FOR ULTRA-THERMAL INSULATION

Sycoretec CAS Co., Ltd.

September 2024



Textile Thermal Insulation/Technical Solutions

Traditional materials

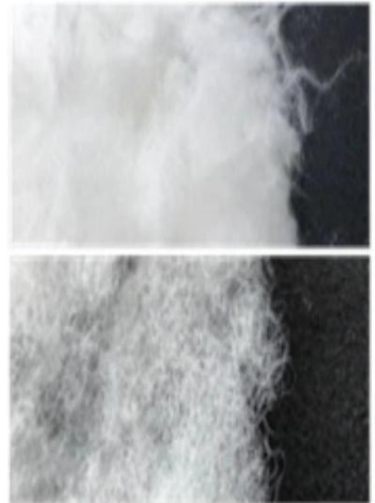
Cotton, linen, silk, wool, down (bulky ,bloated,fat)



Existing materials

Artificial cotton/velvet
(moisture-proof)

- PrimaLoft (P) : bionic down
- 3M Thinsulte: microfiber
- ALPHA cotton: crude fiber, fleece (thermal insulation flocculent)



Functional film
(windproof, waterproof)

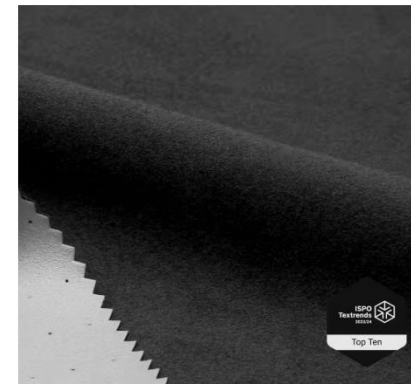
- GoreTex: Gore film, composite film
- Mylar film: metal coating, reflection



Topological Softgel Materials

Temperature control material, Thin and warm, Three seasons of clothing

- The existing thermal insulation materials are mainly filled w/**Daown/flocculus** (**Fiber Flake**)
- Solve the problem of inelasticity of existing thermal insulation materials;
- Solve the problem that existing thermal insulation materials are difficult to laminate



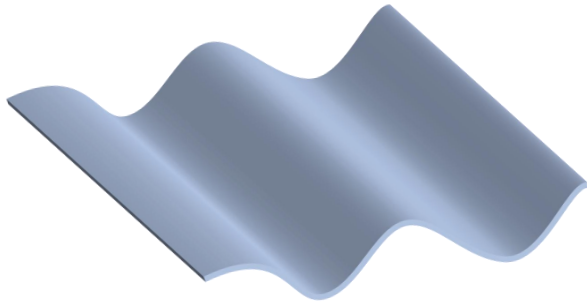


What is Sycore-Tex?

SYCORE-TEX®

- **A brand name**
- **New 3D porous Materials**
(**Membrane/film**)

Topological Softgels




Topological Softgel
1mm ~ 10mm Down

Make feather and down/Fiber Flake clothing
much thinner (5-10times)



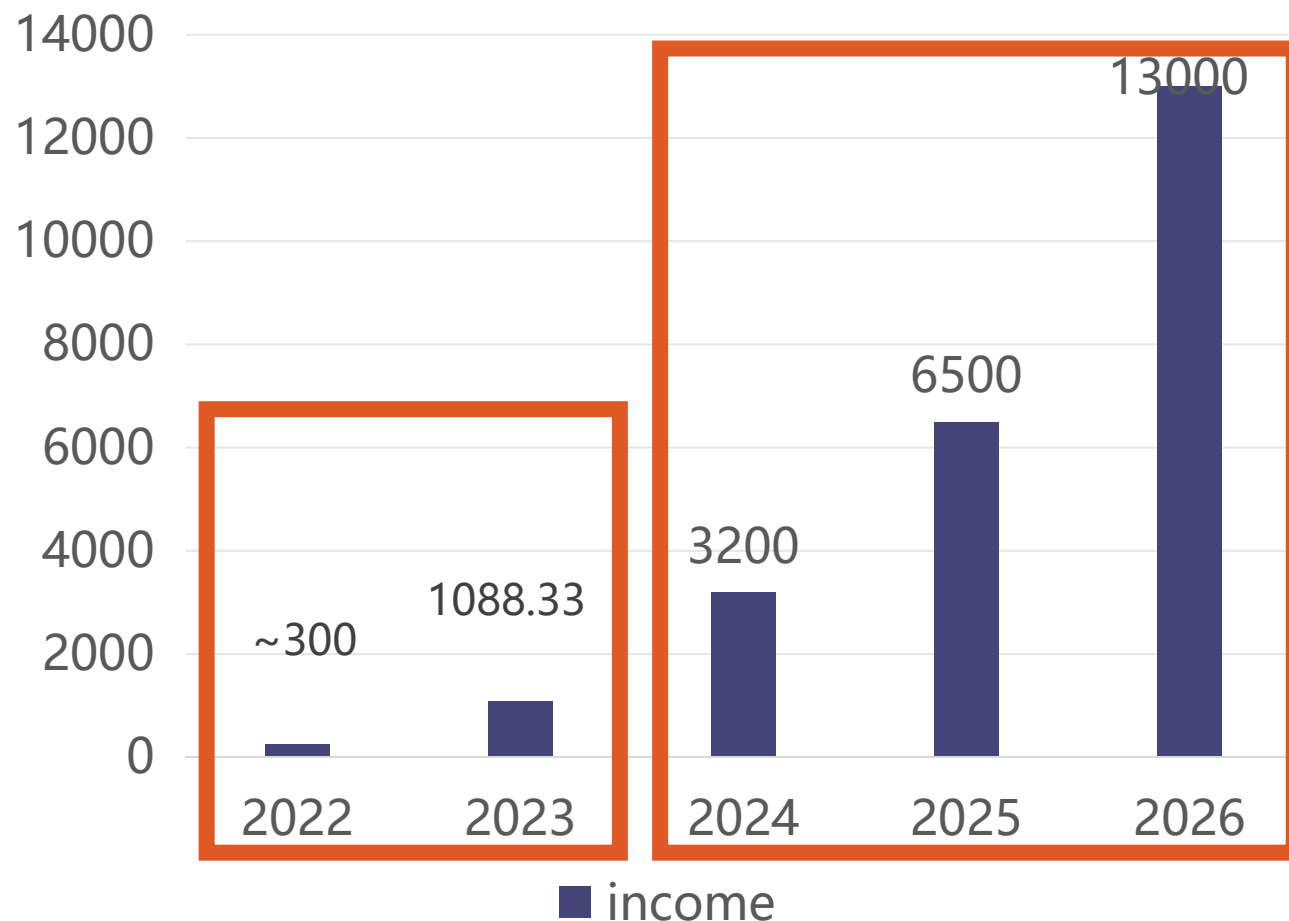
Start-Up Company Profile

SYCORE-TEX[®]

- Established formally in 2021, based on RD work jointly with the Chinese Academy of Sciences.
- 40 Employees with 3 Ph.D.s and 10 Master Degree Staff (physics, chemical Eng. textiles...)
- Headquarter in Beijing with three factories in Anhui Huangshan (production line and test platform, an annual capacity of 9 million meters); in Nansha District, Guangzhou, and Fengxian, Shanghai.
- Total Sales so far around 2M USD and Pre-A round venture capital investment (including SEQUAIA ) of ~4M USD

Products commercialized with in China and globally

2022-2026 revenue (ten thousand yuan)



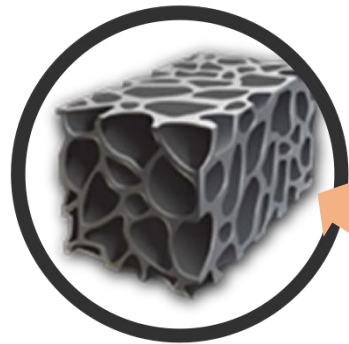


Topological Softgel (TSG) World-First Modified polymer aerogel composites --- Block heat conduction

Sycoretex 's recipe — Large-scale volume production technology

Four core advantages:

1 **3D topology** Polymer elastomers with closed microporous structures
— Keep more still air – reduced **convection**

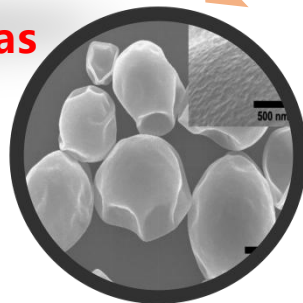


4 Excellent **flexibility and softness**
— Meet the special use requirements of clothing
• **Drability**
• **four-sided stretchable**
• **Touch feeling**

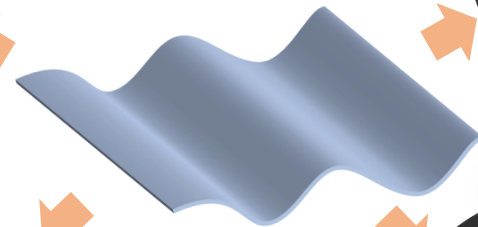
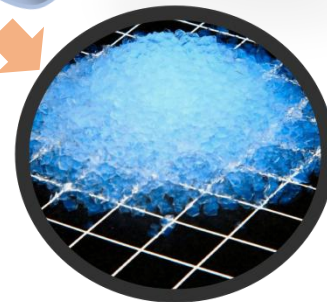


2 No formaldehyde, high enthalpy **Microcapsules of Phase Change Materias**

— **Two-way active temperature regulation**

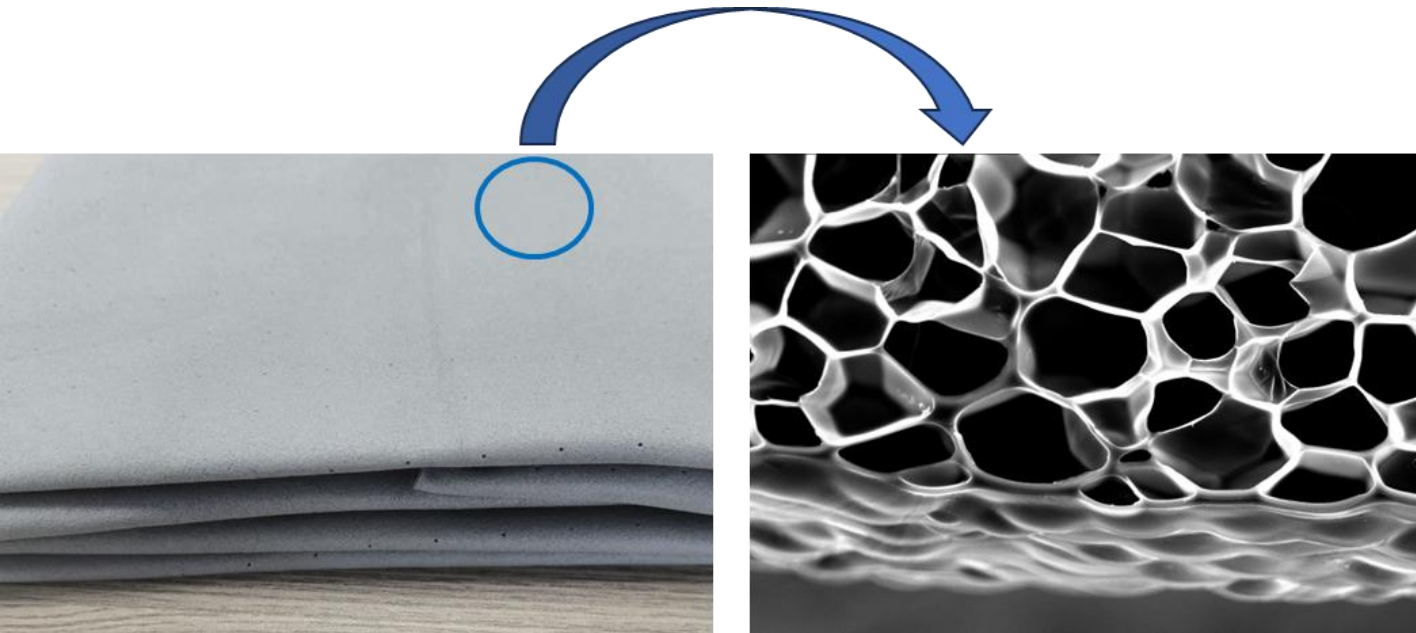


3 Space technology **Aerogel Nanoparticle composite enhancement structure**
— Reduced **thermal conductivity** of solid, **Enhanced warmth**.
Funactinal fillers reduced IR radiation





Microstructure of Topological Softgel Materials



Scanning electron microscope (SEM) analyse

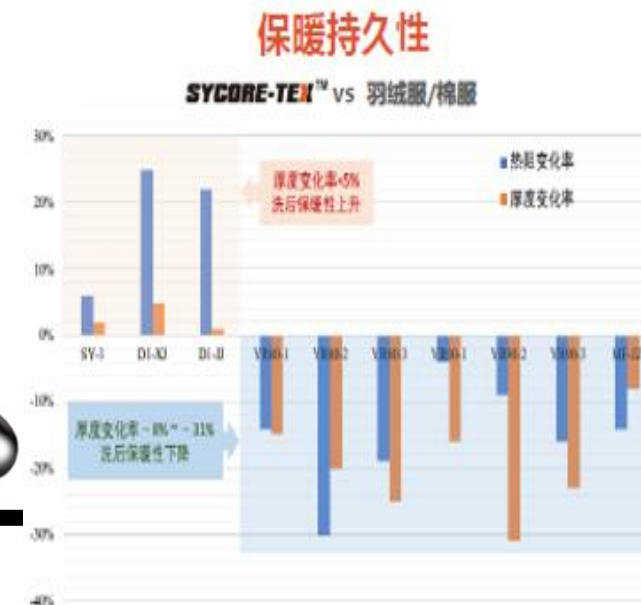
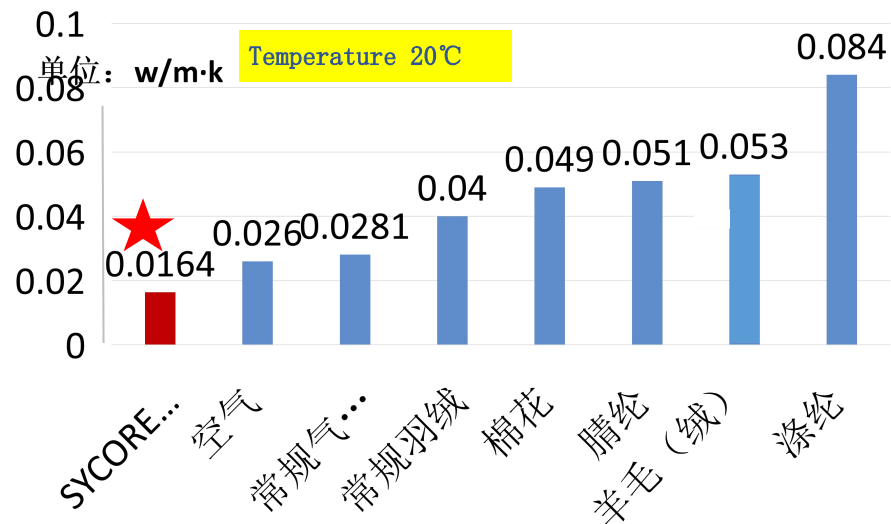
- The cell structure blocks **heat direct conduction**: more than 95% porosity, 100-200 micron cell size, increase phonon conduction path;
- Closed cell structure blocks heat **convection** conduction;
- Functional fillers block **radiation**.



Performance Benefits

Thermal conductivity and air permeability of Sycore-tex

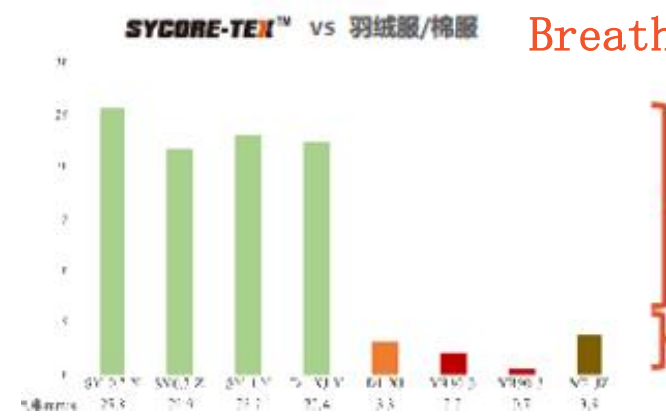
The lower the thermal conductivity, the less heat is lost, resulting in better thermal insulation performance



防风保暖性 Windproof



透气性 Air permeability



无胆布情况下:
SYCORE-TEX 轻薄保暖材料透气率大于20mm/s, 具有良好的透气性

胆布缝合后:
SYCORE-TEX 轻薄保暖材料透气率优于羽绒服

水洗5次后: Washability

SYCORE-TEX 轻薄保暖材料 vs 羽绒服/棉服

- 厚度变化率小于5%
- 厚度大幅下降8%~31%
- 热阻增加6%~25%
- 热阻下降4%~30%



Environmental and Human Safe



SYCORE-TEX®

- **SGS 248 Substances of Very High Concern (SVHC) based on European Chemicals Agency's Standards**
- **GB 31701-2015 textile products for Infants/children**
- **OEKO-Tex Certified**

Sycoretec CAS Company Limited
 No. 62 3F Building 5 No. 30 Shixing Street
 Shijingshan District
 Beijing 100144
 China



TESTEX AG, Swiss Textile Testing Institute
 Gotthardstrasse 61
 8002 Zurich
 Switzerland

Certificate

OEKO-TEX® STANDARD 100

Sycoretec CAS Company Limited
 is granted the OEKO-TEX® STANDARD 100 certification
 and the right to use the trademark.

SCOPE
 Compounded fabric made of SYCORE-TEX®
 Topological Softgel thermal temperature regulating material laminated with 100% recycled polyester, 100% recycled polyamide, or mixed with elastane woven fabrics, white, piece-dyed, printed and finished (incl. soft, antistatic, water-proof, oil-proof, stain-proof, moisture wicking finishing); recycled polyester (incl. recycled cationic dyeable polyester) and their mixtures with polyester, cationic dyeable polyester, recycled polyamide, polyamide, cotton, lyocell, wool, or mixed with spandex knitted fabrics and fleece fabrics, white, yarn-dyed, piece-dyed & printed (with disperse, cationic, reactive, acid dyestuffs) and finished (incl. water repellent, hydrophilic, antistatic, anti-pilling, thermal insulation finishing) (recycled content: >20%, recycled polyester from post-consumer PET bottles, recycled polyamide from pre-consumer yarns) (based on material pre-certified according to OEKO-TEX® STANDARD 100)

PRODUCT CLASS
 II (products with direct contact to skin) - Annex 6

Further compliance information (REACH, SVHC, POP, GB18401 etc.) can be found on oeko-tex.com/en/faq.
 The certificate is based on the test methods and requirements of the OEKO-TEX® STANDARD 100 that were in force at the time of evaluation.



This certificate SH015 245288 is valid until **31.08.2025**.

- SUPPORTING DOCUMENTS**
- ✓ Test report : SH015 245288.1
 - ✓ Declaration of conformity in accordance with EN ISO 17050-1 as required by OEKO-TEX®
 - ✓ OEKO-TEX® Terms of Use (ToU)

Matz Bachmann
 Matz Bachmann
 Managing Director

Dijana Ajdinovic
 Dijana Ajdinovic
 Ecology Team Leader

Zurich, 2024-08-20

intertek
 Total Quality Assured.



TEST REPORT

报告号: SHAT06874523
 日期: Apr 20, 2021

委托单位	浙江森马服饰股份有限公司	联系人	-	
地址	浙江省温州市站前区委桥工业园南二路98号			
委托时间	2023-04-15	测试开始时间	2021-04-15	
样品信息	成分	-	数量	1
	颜色	-		
	样品描述	客户认定为一块复合面料，颜色为白色。		
	货号	-	季节	-
	面料厂	-	成衣厂	-
	面料编号	-		
样品名称	3线面料			
检验类别	委托检验(送样检验)	送样人	李登洲	
其他	转发单位: 01新技本部 年: 2021			
本证标签符号	-			
判定依据	GB 31701-2015 婴幼儿及儿童纺织产品安全技术规范 婴幼儿用品			
备注	根据申请者的请求,具体内容参见附录。 本报告检验结论是根据检验依据对所检项目得出的,不代表未经检验的项目或功能符合要求。			

批准 Approved by *李敏*
 检验员 李敏



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 Attention: please refer to the terms and conditions printed overleaf

SGS

检测报告 (SVHC) 编号: SHAPH23018422602 日期: 2023年11月14日 第1页, 共13页
 客户名称: 北京中科海势科技有限公司
 客户地址: 北京市朝阳区高碑店东区 D24-7

样品名称: SYCORE-TEX
 以上样品及信息由客户提供。

SGS 工作编号: SHIN2311008377PL01
 收样日期: 2023年11月08日
 检测周期: 2023年11月08日 - 2023年11月14日
 检测要求: 根据客户要求。
 (I) 基于欧洲化学品管理署截止 2023年6月14日公布的授权审议的高关注物质候选清单(根据欧盟第 1907/2006号 REACH 法规), 对 235 种高关注物质 (SVHC) 进行部分检测。
 (II) 基于欧洲化学品管理署截止 2023年9月1日公布的潜在的高关注物质咨询清单(根据欧盟第 1907/2006号 REACH 法规), 对 5 种高关注物质 (SVHC) 进行部分检测。
 (III) 基于 WTO 2021年6月1日的通知, 对 1 种潜在的高关注物质 (SVHC) 进行部分检测。
 (IV) 基于欧洲化学品管理署公布的高关注物质意向清单(根据欧盟第 1907/2006号 REACH 法规), 对 7 种潜在的高关注物质 (SVHC) 进行部分检测。
 检测方法: 见后续页。
 检测结果: 见后续页。

总结:

根据具体的范围和部分检测, 所提交样品中 SVHC 检测结果 ≤ 0.1% (w/w).	通过
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通标标准技术服务(上海)有限公司
 授权签名

俞迪

Mindy Yu 俞迪
 批准签署人



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 Member of the SGS Group (SIS SA)



Intellectual Property Rights and Awards/Honors



- Solely owned 10 Chinese invention patents and 1 US patent
- Total 91 IPs
- The European Union, Russia, Japan and South Korea are pending patents...
- Forbes China 2024 Top 20 Brand Value Award
- Geneva Invention Gold Medal 2023
- Nuremberg Invention Gold Medal Award 2023
- China Excellence Patent Award 2023
- ISOP Awards – Best Product 2023



Won the ISPO and global Award for three consecutive years

Progress every year



Product Portfolio --- Meeting Different Needs

Composite fabrics “sandwich” A | B | C Various structural combinations

A: Air Outer surface
B: Base layer
C: Core lining layer

Composite mode 1:

Garment fabrics



Topological Softgel



A + B (Outer shell)

Composite mode 2:

Topological Softgel



Garment lining



B + C Liner

Moisture-curing reactive polyurethane hot melt adhesive composite process

It does not affect the original properties of the fabric. The composite fabric has excellent bonding strength, temperature resistance and aging resistance

Composite mode 3:



Phase change temperature regulation / Waterproof and breathable outer layer



Topological Softgel



Warm layer

A + B + C



Thin



Super warm



Phase change temperature regulation



Resistant to compression



Wind-proof



Self-cleaning



Easy to care



No blowing



Design flexibility



Multi-purpose

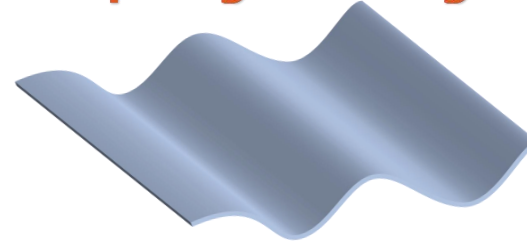


Sycoretec CAS Complete Sets of Thermal Management Products

One stop solution for all product categories

1. Single Film series given to philandering 0.3-3 mm 35-150 g/m²

Topological softgel



Ultra soft and elastic
Lightweight drape
Windproof and thermal insulation properties

2. Composite series thin 0.4-1 mm 45-60 g/m²



Slant micro bullet
Expansion of microspheres

thin 1-3 mm 60-120 g/m²



Composite flocculant/Flake

thick 1.5-25 mm 80-300 g/m²



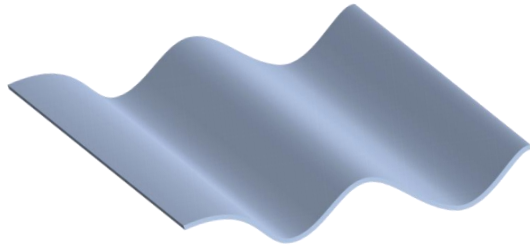


Rebuilding New Categories — Changed Traditional Dress Habits

Redefine “cotton, linen, silk, wool”

Topological softgel + Traditional fabrics =

Spring Clothing
Wear in winter



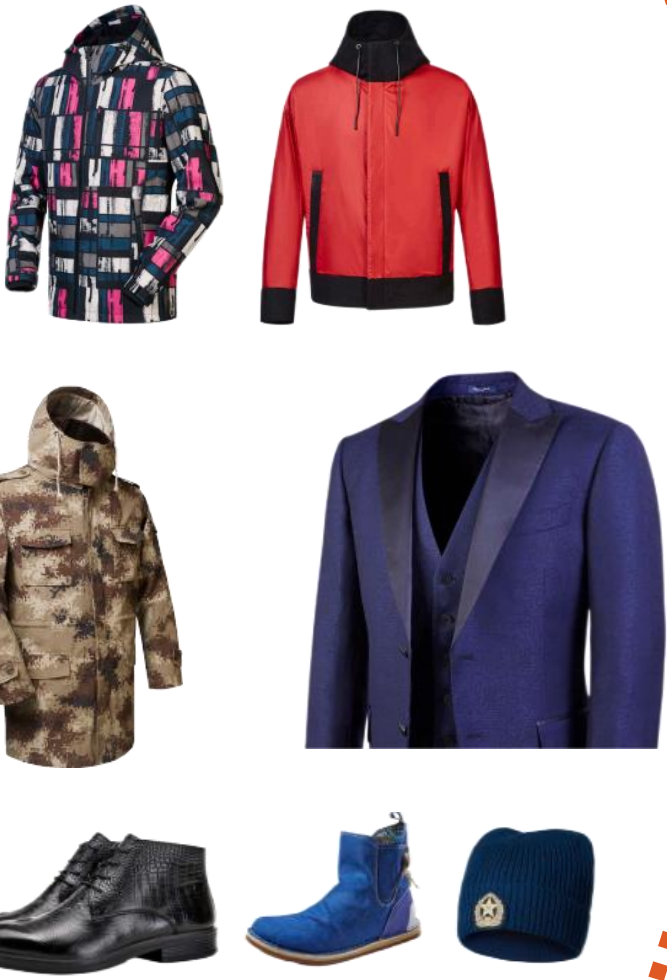
Topological softgel can make the fluffy down jacket thinner, thick cotton clothes, lighter !



Target market outlook and product matrix

Formation of product matrix in the textile industry & application reserve in other industries

Clothing category gives priority to import



Expand the industry gradually penetration



Extensive layout of other industries





中科海势
Sycoretex CAS Co., Ltd.

SYCORE-TEX[®]

**Revolutionary material technology
in the field of textile and apparel insulation**

Sycore-tex, your choice

Thank you



Website: <https://sycoretex.com/>
Contact us: info@sycoretex.com