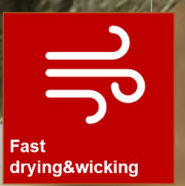
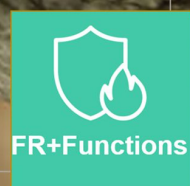
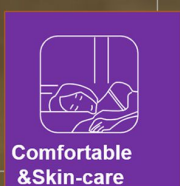
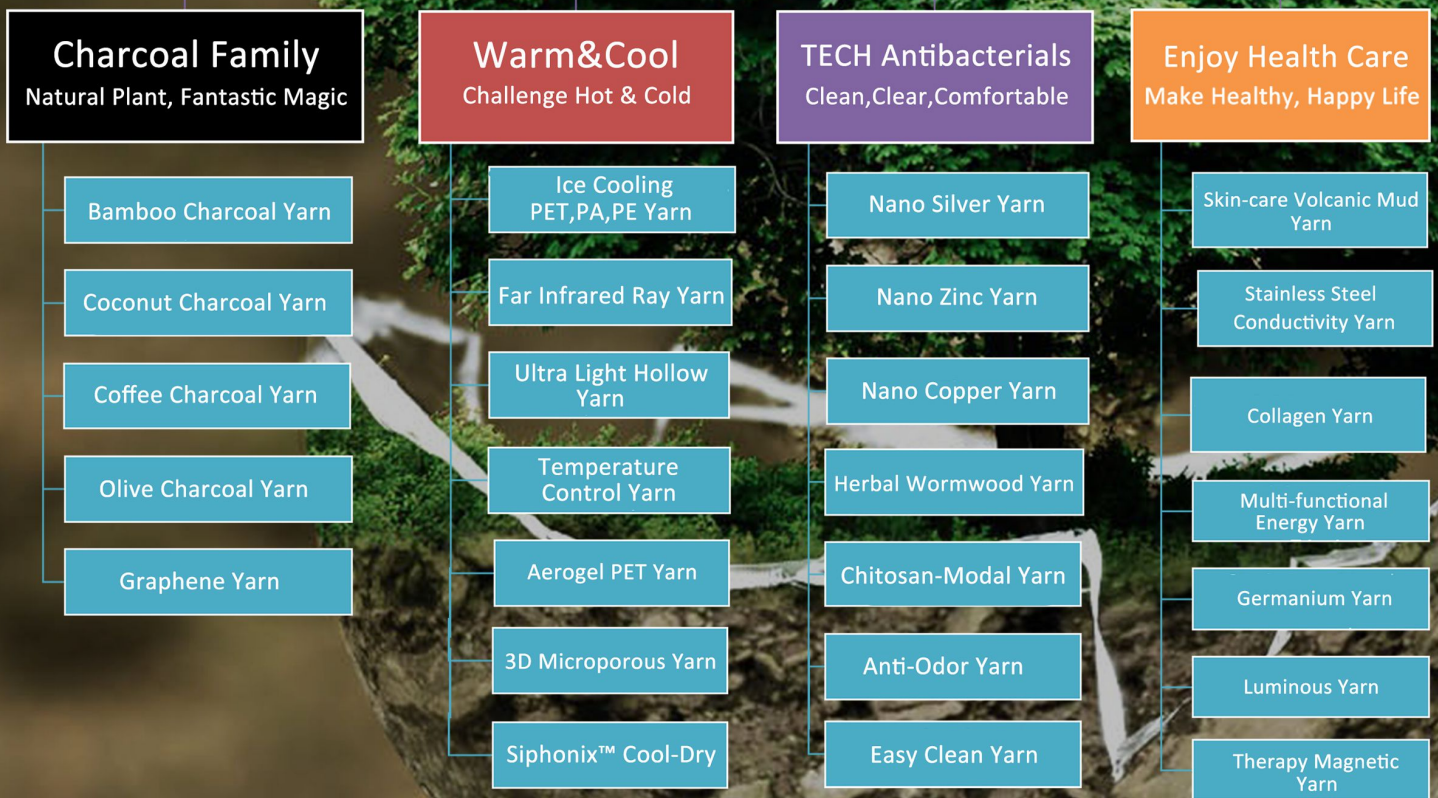


# Functional & Sustainable Yarns Specialist

## Annie's Smartex Co.,Ltd Product Series





## ABOUT US

Annie's Smartex Co.,Ltd. is a technology enterprise professionally engaged in the R&D of powder, functional textile fiber, spun yarn, filament. We are adhering to the "science and technology, sustainable, low-carbon and healthy" for development and research of new textile materials with multifunctional properties. We provide high quality, multi-functional fiber and yarn products for medium and high grade textile and garment enterprises. Building dreams, reform and refined creation represent the spirit of a great power.. We always provide the most cost-effective products and free fiber consulting services ! Sincerely invite you to join us the great innovation

创新塑造未来 - Innovation Shapes The Future

# Charcoal family



竹炭纤维  
Bamboo Charcoal Yarn



椰炭纤维  
Coconut Charcoal Yarn



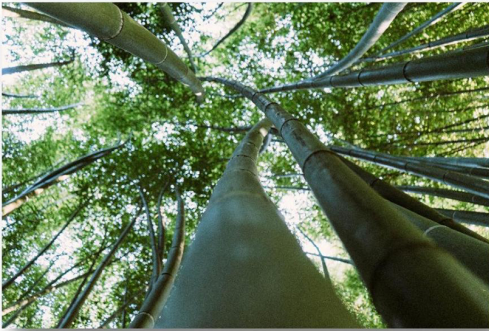
咖啡炭纤维  
Coffee Charcoal Yarn



橄榄炭纤维  
Olive Charcoal Yarn



## Bamboo Charcoal



### Background

◆ The production of bamboo charcoal began in the mid-1990s. Our country began to produce bamboo charcoal since 1995. This bamboo charcoal powder can be added to polyester, viscose and other fibers. This natural plant additive is a combination of nanotechnology and textile technology. The production of bamboo charcoal and its fiber products has been rapidly popularized in many provinces. With the development of economy and the improvement of people's living standard, more and more attention is paid to green environmental fiber. Bamboo charcoal fiber has good moisture absorption, breathable and comfortable, antibacterial and deodorizing, mothproof and mothproof health effects.



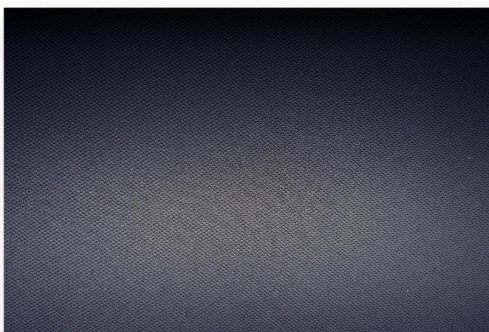
### Property

- **Antibacterial:** Bamboo charcoal has a porous structure and good odor absorption ability. Keep your body clean and fresh at all times.
- **Release far infrared ray:** Bamboo charcoal powder can absorb and release 4 ~ 15μm far infrared ray. Promote energy circulation in the body.
- **Release Negative Ions:** Bamboo charcoal fiber has the function of releasing negative ions, skin like bathing forest breath fresh air.

## Coconut Charcoal



1. After coconut pulp and coconut juice are processed into food, the mass waste of coconut shells will put great pressure on environmental management. Waste coconut shells can be recycled to turn waste into treasure.
2. The coconut shell is ground by nanotechnology, mixed with polyester or viscose to produce core masterbatch, and finally made into coconut charcoal fiber.
3. Coconut charcoal fiber has become a new member of the environmental health fiber family.



- ☑ Antibacterials
- ☑ Release far infrared Ray
- ☑ Thermal regulation



## Coffee Charcoal



New Eco-friendly

The use of coffee grounds after drinking coffee production, low carbon environmental protection, reduce pollution to the environment

Property

Coffee carbon fiber fabric not only has the characteristics of natural environmental protection, but also has far-infrared, negative ion, heat storage, warm and other functions. It is very suitable for making all kinds of textiles.

- 1) Antibacterials
- 2) Release far infrared ray
- 3) Thermal regulation
- 4) Deodorization



## Olive Charcoal



Eco-friendly

The olive tree is one of the oldest in the world. No one knows for sure when the first olive tree was born, but the earliest known olive trees were found along the Mediterranean coast. As a species, olive trees have been around for a long time along the Mediterranean coast.

Now we're going to wear olives and keep olive culture alive in textiles.

Property

- ✓ Antibacterials
- ✓ Release far infrared ray
- ✓ thermal regulation
- ✓ Deodorization

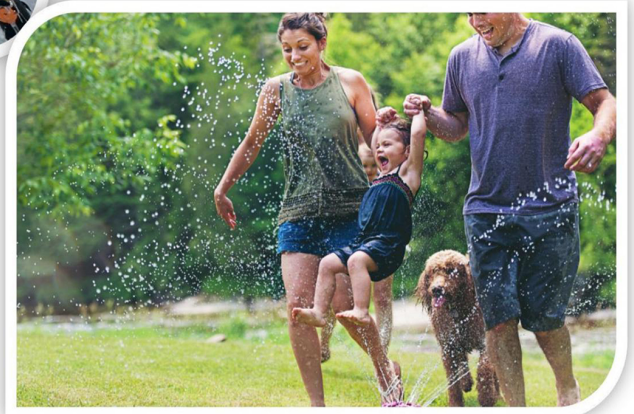


Warm &  
Cool  
Series



Give you endless warmth

Ice cooling+Anti-  
UV+Antibacterials for  
summer



我们使用再生涤纶为载体，助您的产品更环保  
We Use Recycled Polyester Basis To Make Your Product More Eco-Friendly



Functional combination innovation can make the application of textiles more intelligent, more close to human perception.

What kind of cold material is used depends on the final application scenario. People-oriented, always through the scientific and technological innovation itself.

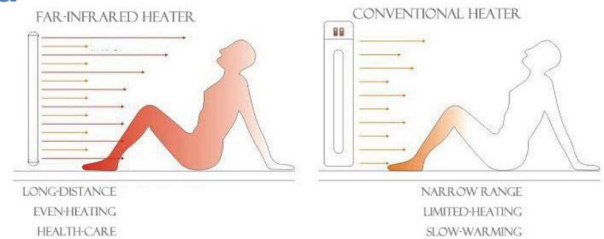
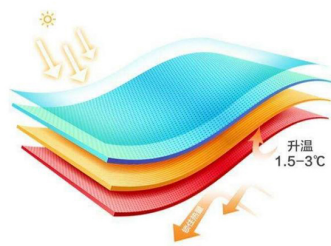
Polyester/ recycled Polyester basis

Nylon basis

HDPE/LDPE ( Raw white/dope dyed)



## Healthy Far Infrared Ray thermal yarn



Compared with ordinary fabrics, far infrared textiles can still achieve more thermal effect than of ordinary textiles under thin and light conditions. While pursuing fashion, lightness, health and modern society, it will provide great opportunities for the development of enterprises.



## Aerogel Fiber&Yarn

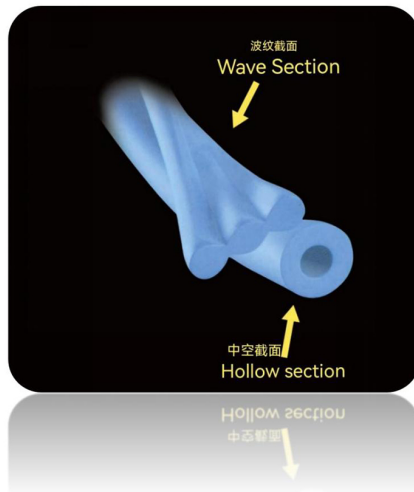
Aerogel is a kind of nano-porous material with low density and high porosity pioneered by S. Ktner, an American scientist, in 1931. NASA has used aerogel as a thermal insulation material in space since 1993. More than 90% of the aerogel is static air mass of 10-30 nm, which has a very good insulation effect. 1 inch thick aerogel can hold as much heat as 20-30 pieces of regular glass. Also known as cured blue smoke because of its low density. Aerogel is the best insulation material known. The thermal conductivity of aerogel is 0.018W/M.K which is lower than that of static air of 0.026W/M.K, and the insulation effect is better than static air.



We ground silica aerogel into ultrafine powder, and then combined with polyester, developed a new textile thermal functional material! The fiber has aerogel properties with low thermal conductivity between 0.017W/ M and 0.020 w /M. K fiber after many tests, insulation performance is far better than ordinary fiber. Aerogel is mainly made of gas and looks like frozen smoke. It is the lightest solid material, with thin, warm, heat insulation properties.



## Temperature Controlling Yarn



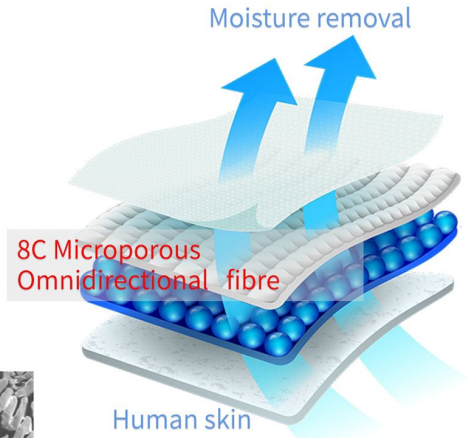
- 1 CoolwarmX™ garments provide a balanced temperature and comfort experience for all seasons.
- 2 CoolwarmX™ is a versatile, eco-friendly and revolutionary product that incorporates cross-sectional technology. We combine the wave cross section and the hollow section into a filament. Interactive, more scientific enhancement of fiber performance
- 3 CoolwarmX™ technology helps runners lose heat quickly during exercise, dry quickly, stay non-sticky after a run, and keep warm.



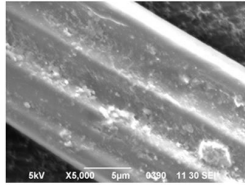


## 8C Microporous 3D Rapid Drying Technology

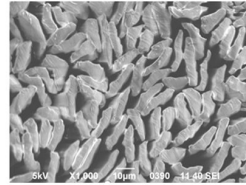
Special 8C groove structure, so that when the human body sweat, water can quickly spread to the surface of the fabric, through air convection, water evaporation, take away the human body's water and heat, cooling and humidity, while at rest.



Microscopic shape of the 8C groove



5000X longitudinal section

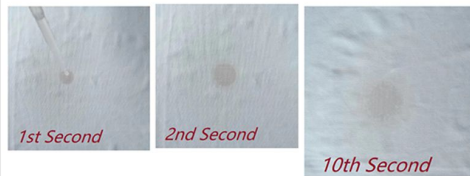


1000X cross section

**IcSnow**  
一株雪

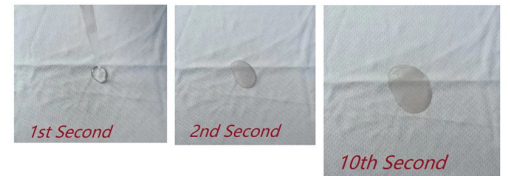
- ✓ Ultra-Light
- ✓ 3D Technology
- ✓ Breathable & Comfortable
- ✓ Microclimate Regulation

Cycling, jogging, yoga, these sports cause a lot of sweating. As this, the 8C micropores play a crucial role in efficiently dissipating sweat and harnessing the force of the wind to ensure the body remains dry.



IcSnow® 8C Microporous Test

Moisture spreads very fast, which will make the body comfortable.



Other Brand Test

Moisture is hard to spread, unbearable.



## Quick-drying

### one-way moisture-conveying filament

Quick-drying one-way moisture-conveying filament is a modified polyester filament. This filament has certain hydrophobicity and water-conducting and moisture-permeable properties. When the fiber encounters water, its structure expands, forming a pressured water storage source.



The fabric is made of skin-flattering surface quick-drying unidirectional moisture-conducting filament and regular filament. It has the characteristics of moisture absorption, quick drying, breathability and comfort, which can effectively regulate the comfort between the human body and the outside world during exercise. It also effectively relieves the coolness brought about by sweating during exercise.



**SIPHONIX**  
FRESH YOUR SKIN ALL THE TIME

- ✓ Water-conducting
- ✓ Moisture-permeable
- ✓ Quick-drying

Material	Polypropylene (PP)	SiphoniX®
Dyeability	cannot be dyed	easy to dye ✓
High Temperature Resistance	not resistant to high temperatures (setting temperature should be below 100°C)	no special requirements for high temperature resistance ✓
Air Permeability	relatively poor air permeability	wxcellent air permeability ✓
Light Fastness	poor light resistance, prone to deterioration	better light resistance ✓

\*Polypropylene (PP) can also be made of single wet fabric, but compared with SiphoniX®, it is not resistant to high temperature, generally can not be ironed. A better option is SiphoniX®.

# Antibacterials Series

Nano Silver series



Nano Zinc Series



Nano Copper Series



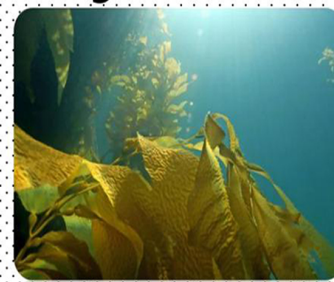
Chitosan-Modal Series



Natural Plant-Wormwood



Alginate Fiber



**ISILVERY** Nano Silver Series



In the field of textiles, some antibacterial agents in clothing have been found to be harmful to human health, and experts believe that the application of nano silver technology can make it have good air permeability and sweat performance, as well as sterilization and deodorization. Is a new type of green environmental protection antibacterial products.



Professional Antibacterial Materials--Ag+++

**NaCuX™** Nano Copper Series



- 1 NaCuX™ fibers are processed from selected nanoscale copper powder, fused into a fiber spinning solution. The composite material of copper antibacterial and copper peptide is evenly dispersed in polyester, nylon or cotton by high-tech spinning process.
- 2 NaCuX™ fiber effectively solves the problem that antibacterial fabrics produced by finishing process are not easy to wash and fall off. The fibers are effective against bacteria and fungi, making them safer and more comfortable to wear.
- 3 We now use polyester, nylon, cotton as the basis to meet different needs.



## Nano Zinc Series



- 1 Zinc is one of the essential nutrient trace elements and is safe and harmless to human body.
- 2 The unique physical properties of zinc make it have excellent anti-UV and anti-bacterial properties

Permanent Antibacterials & Anti-UV

## Chitosan-Modal Fiber



Super Breathable

Moisturizing

Natural Antibacterials



Chitosan Modal fiber is a new generation of health care fiber as the carrier, soft feel, non-irritating, high moisture, heat preservation, antibacterial, deodorization and other functions, conducive to skin care, auxiliary medical effect on allergic dermatitis, in line with the green textile standards.



According to these characteristics, Chitosan Modal fiber is widely used in many fields, and can be blended with cotton into antibacterial and deodorant health underwear, various baby clothes, medical textiles, etc.



## Natural Plant--Wormwood Fiber

**Herbal medicine,  
Natural antibacterial,  
Lasting effect,  
Quintessence of Chinese culture**

It is made from natural wormwood, endows the antibacterial and meridian-relaxing functions of wormwood to biological fibers,

The high quality materials and strict technology achieve the incomparable effect of wormwood fiber, Become the classic representative of large biological fibers. Widely used in bedding, skin-friendly underwear, baby clothes, Guard products and other fields.



## Marine Biological Alginate(Seaweed) Fiber

Seaweed fiber is a biomass regenerated fiber made from the huge seaweed in the sea. After refining and refining the seaweed polysaccharide, it is produced by wet spinning and deep processing technology. It has the characteristics of environmental protection, non-toxic, flame retardant, degradable, good biocompatibility and rich raw material sources.



- 01 Natural bacteriostatic without stimulation
- 02 Biodegradable
- 03 Skin-care and comfortable (Moisture rate  $\geq 18\%$ )
- 04 Average strength is higher than cotton strength ( $\geq 2.6\text{N/Dtex}$ )
- 05 Natural Fire-Retardant (LOI  $\geq 45\%$ )



## EASY-CLEANED YARN

A new type of functional fiber, which can enhance the hydrophilicity of polyester fibers, give fiber fabrics outstanding moisture wicking and anti-static effect!



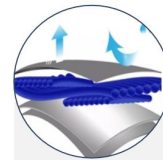
It improves the stain-removing performance on polyester and its knitted fabrics.



Soil Release :  
Grade 4,  
Stain-resistant and  
easy to clean



Instant hydrophilic:  
Reduced cleaning  
time



Moisture absorbing  
and quick drying

✔ Stain-resistant

✔ Moisture-wicking



Pour the red wine on  
the fabric



Dry with a hair dryer



flush with water



Very clean and looks  
like new



soy sauce



juice



coffee



cola

We have passed the easy cleaned test on soy sauce, juice, cola and coffee.



**Volcanic Mud fiber**

You deserve better

**Germanium Fiber**

Natural Rare Mineral

**Graphene Fiber**

Multi-Functional Black Technology

**Stainless Steel Fiber**

Anti-Static, shield signals, ensure life safety

**Collagen Fiber**

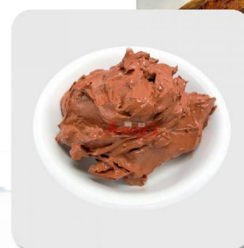
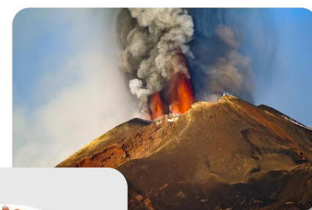
Beauty from inside out





## Volcanic Mud Fiber

- 1 Rich in potassium, sodium and a variety of natural mineral components, volcanic mud shows excellent moisturizing, elastic and calming effects. At the same time rich in copper, zinc, silver, with excellent antibacterial effect, anti-UV effect.
- 2 Now we have developed this material in the textile field. It still retains the powerful magic of fiber.
- 3 Volcanic Mud fiber has good mechanical properties, high far-infrared emittance, high moisture absorption and antibacterial properties, especially its anti-propionibacterium function has been tested, and it can play a good role in inhibiting and eliminating acne on the skin surface
- 4 Can be widely used in mask fiber, underwear, socks, home textiles, sportswear, seamless clothing, etc.



Rich in more than 35 natural rare minerals, Help you rejuvenate!

## Germanium Yarn



Germanium, an element known as a semiconductor, produces negative ions at temperatures above 32 degrees Celsius and has a biological current that can be applied to the human body.



Because germanium clothing has the characteristics of emitting far infrared ray and producing negative ions, it can keep human skin breathable and realize energy circulation.

## Graphene Series

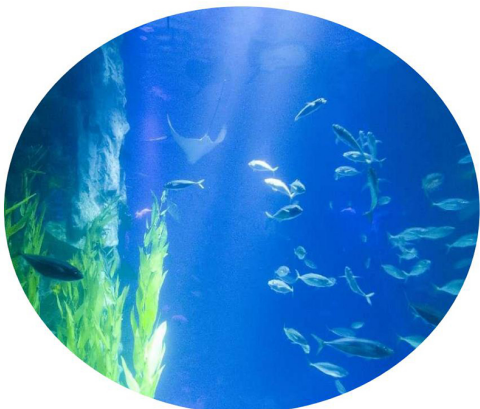


- ➔ Antibacterials
- ➔ Release far infrared ray
- ➔ thermal regulation
- ➔ antistatic/anti-UV

- 1 Graphene is a new kind of material that not only has thin and high strength, but also has low resistivity, good thermal conductivity and good electrical conductivity. Graphene is almost completely transparent and soft, but its atoms are packed so tightly that even the smallest structure of helium molecules cannot penetrate it. It has been called the most subversive material of the 21st century.
- 2 In recent years, graphene and its derivatives have been widely used in biomedicine, optics and other fields. It has been found that graphene can absorb and reflect 40% of far-infrared radiation.
- 3 Graphene is widely used in various textile fields due to its multifunctional properties. It can be widely used for various of apparels, hometextile and etc.

## Collagen Series

Collagen fibers release moisture factors and form a flexible water-retaining film, which has a great moisturizing effect on human skin. Achieve natural beauty skin, skin care function.



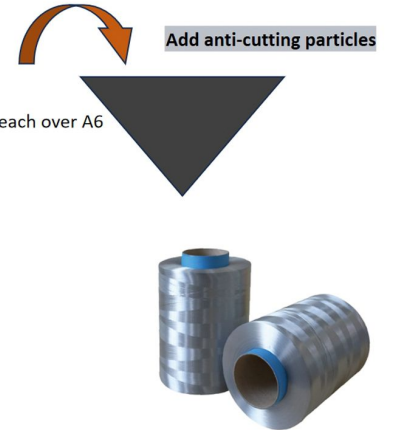
We extracted amino acid crude fiber, active protease, vitamins and other ingredients with good biocompatibility and skin-friendly comfort from abundant Marine resources, and mixed them into special cross section fibers to make viscose carrier and nylon carrier collagen fiber and yarns.



## ADAMAS® Filament

ADAMAS® filament, is a kind of modified ultra high molecular weight PE fiber. It is produced by adding anti-cutting particles into the processing of ultra high molecular weight PE fiber which making the fiber holds both high strength and higher anti-cutting property.

- No need to add glass fiber and steel fiber ; Glass fiber or other anaphylactogens not inclusive
  - Ultra strong anti-cutting property
  - Soft and comfortable
  - Good extensibility
  - Anti-cutting property comply with ANSI/ISEA 105 standard, can reach over A6 level, maximum A9 level
- |                         |             |
|-------------------------|-------------|
| Anti-cutting range:     |             |
| GB24541                 | Grade 3~5   |
| European Standard EN388 | Grade 3~5   |
| ISO13997                | Grade B~F   |
| ANSI/ISEA 105-2016      | Grade A2~A6 |
- Can meet different requirements such as knitting and weaving
  - Durable. Can be washed many times and with stable property
  - Strong creep-resistance
  - Low scalability property
  - Corrosion resistant, acid and alkali resistant, low temperature resistant, strength become highest at minus 80 °C



## Multi-functional colorful high-quality composite yarn series

- ✓ Anti-cutting
- ✓ Anti-static
- ✓ Heating
- ✓ High temperature resistant
- ✓ Waterproof
- ✓ Shielding

Multi-functional colorful high-quality composite yarn, produced by new generation of wrapping equipment, which can realize different functions



## Product Application:

Ultra anti-cutting gloves

Ultra anti-cutting jackets

Other textile fields which has high requirements on anti-cutting property



## Stainless Steel Yarn

- 1 Stainless Steel fiber is made of stainless steel by cluster drawing process, the diameter is fine to  $1\mu\text{m}\sim 40\mu\text{m}$ . It has a metallic color of stainless steel and a bright surface. Due to the diameter of the metal fiber reaches the micron level, it produces new characteristics in addition to maintaining the original properties of stainless steel. It not only maintains the properties of electrical conductivity, thermal conductivity, corrosion resistance, but also has the characteristics of softness and high specific surface similar to chemical fiber. It is the base material for the production of various metal fiber products.
- 2 The yarns made by blending stainless steel fibers with cotton and polyester fibers have a permanent conductive effect, which can be used to weave touch screen gloves, anti-static conveyor belts, anti-static work clothes, etc. It can be widely used in textile, filtration, metallurgy and papermaking, covering industrial, civil and military fields.


## Specification

Annie's  
Annie's Smartex Co., Ltd.  
安尼 (上海) 智能科技有限公司

Staple Fiber	Filament	Spun Yarn	Customized only for you!
Polyester Basis	Recycled polyester Basis	100% pure yarn	
Nylon Basis	Polyester Basis	Blended with other materials	
Viscose Basis	Nylon Basis	10S~60S	
Modal Basis	POY, DTY, FDY .....		
Recycled polyester Basis			
Acrylic Basis			
Cotton Basis			

# GRS Certificate

# Biodegradation Test



Control Union Certifications B.V.  
Meeuwenlaan 4-6, 8011 BZ Zwolle, Netherlands, NL  
+31 38 426 0100  
www.controlunion.com

Scope Certificate Number: CU1166327GRS-2023-00018796 (continued)  
Annie's Smartex Co., Ltd. 巧兰(上海)纺织科技有限公司  
Global Recycled Standard (GRS)

**Products Appendix**  
Under the scope of this certificate, the following products are covered:

Product category	Product details	Material composition(*)	Label grade	Facility number
Dyed yarns (PC0029)	Filament (PD0069)	99.0% Recycled post-consumer Polyester (RM0189) 1.0% Polyester (RM0186)	GRS	1166327
Greige yarns (PC0030)	Filament (PD0069)	100.0% Recycled post-consumer Polyethylene (RM0193)	GRS	1166327
Greige yarns (PC0030)	Filament (PD0069)	100.0% Recycled post-consumer Polyester (RM0189)	GRS	1166327
Greige yarns (PC0030)	Filament (PD0069)	100.0% Recycled pre-consumer Polyamide (Nylon) (RM0184)	GRS	1166327
Undyed fibers (PC0034)	Staple fibers (PD0079)	100.0% Recycled post-consumer Polyester (RM0189)	GRS	1166327

Note: \* Quantification (percentage) of material composition is optional. [ ] Square brackets refer to certified components of a product.


**Site Appendix**  
Under the scope of this certificate, the following facilities have been audited and found to be in conformity:

Facility name & number	Address	Process categories
Annie's Smartex Co., Ltd. 巧兰(上海)纺织科技有限公司 (main) 1166327	Room 502, 5F, No.1500 North Guyang Road, Songjiang District 201620 Shanghai Shanghai Shi, CN-SH China, CN	Trading (P10030)

**Associated Subcontractor Appendix**

Subcontractor name & number	Address	Process categories
No subcontractors		


Place and date of issue:




Zwolle, 2023-03-25  
Last updated: 2023-03-13  
On behalf of the Managing Director  
Ruohan Chen | Certifier

This electronically issued document is the valid original version.

Certification Body



Standards logo



License Number CB-CUC-1166327 Page 2 / 3



Number: HKGT05206716

## TEST REPORT

Tests Conducted (As Requested By The Applicant)

Table-3: Percentage biodegradability of Test sample with respect to Positive control (Reference material) Cellulose.

Group	Inoculum control	Positive control (Reference material)	Biodegradable Fibre Sample
<b>Weight</b>	1000 ml	10.0154 g	10.1134 g
<b>Total volume (ml)</b>	2870.00	9790.00	5850.00
<b>% CH<sub>4</sub></b>	11.80	41.80	16.40
<b>Volume of CH<sub>4</sub> (ml)</b>	338.66	4092.22	959.40
<b>Weight of CH<sub>4</sub> (g)</b>	0.2222	2.6845	0.6294
<b>% CO<sub>2</sub></b>	15.00	42.80	18.90
<b>Volume of CO<sub>2</sub> (ml)</b>	430.50	4190.12	1105.65
<b>Weight of CO<sub>2</sub> (g)</b>	0.8524	8.2964	2.1892
<b>Total weight of carbon in grams</b>	0.3968	4.2534	1.0631
<b>Theoretical weight of carbon in grams (Ci)</b>	-	4.2135	8.6308
<b>Biodegradation</b>	-	0.91531	0.0772
<b>% Biodegradation</b>	-	<b>91.53</b>	<b>7.72</b>



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# Contact With Us



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Shanghai China



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<https://smartexyarn.com>  
<https://functionalyarn.com>

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