

2020/2021

China Yarns Fashion Trends

中国纱线流行趋势

绿色生态类

GREEN ECOLOGY

色纺纱系列

Colored Yarn Series

纯棉纱系列

Cotton Yarn Series

差别化纱线系列

Differentiated Yarn Series

功能赋予类

FUNCTION ENDOWING

差别化纱线系列

Differentiated Yarn Series

性能优化类

PERFORMANCE OPTIMIZATION

色纺纱系列

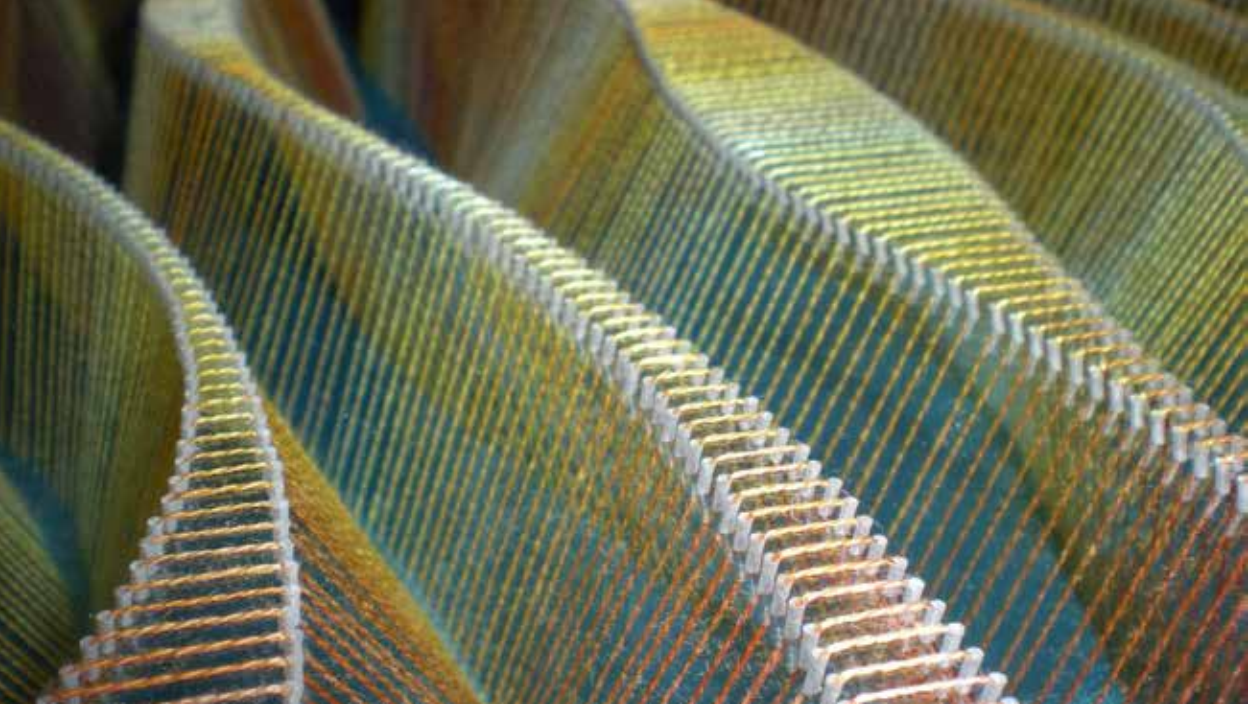
Colored Yarn Series

纯棉纱系列

Cotton Yarn Series

差别化纱线系列

Differentiated Yarn Series



2020年是全面建成小康社会和“十三五”规划的收官之年，我国纺织行业积极调结构、转方式、促升级，根据“科技、时尚、绿色”的定位要求，实现纺织工业的高质量发展。

2019年，中国棉纺织行业协会（简称“中棉行协”）启动了“中国纱线流行趋势研究与发布”，秉承“创新”“绿色”“低碳”“环保”“时尚”原则，挖掘引领中国纱线发展趋势的产品，推广新产品技术与应用、推进纱线品牌建设。

在开展流行趋势评选的活动中，共收到20多家企业报送的近50余个纱线产品，由中棉行协组织行业、院校和企业专家，从工艺技术、时尚文化、市场竞争、品牌文化等多角度进行综合评价，评选出设计合理、性能优异、市场适用性强的产品入围，并以“美好生活”为主题，将入围的产品进行系列化阐述，最终确定2020/2021中国纱线流行趋势的入围名单。

2020/2021中国纱线流行趋势产品拥有绿色生态、功能赋予、性能优化、三大方向，并分为色纺纱类、纯棉类、差别化类三大系列产品。

绿色生态 坚持绿色发展理念，在原料、染色、后整理等非纺纱环节，遵循绿色环保的生产原则，倡导绿色、生态、循环利用的生活理念。代表产品特点有：有机棉植物染、环保涂料染色、良好棉花、循环可再生、环保可降解、无添加抗菌抑菌等。

功能赋予 通过创新采用多组分纤维、新型纺纱工艺，赋予纱线更多功能，如抗菌抑菌、预防螨虫、防静电、抗紫外线、吸湿快干、高弹挺括等功能。

性能优化 在常规纤维、传统纺纱工艺基础上创新纤维混纺、工艺调整、设备改造，优化纱线性能，如抗起毛起球、挺括易打理、色牢度高、透气凉爽、细腻飘逸等特点。

希望通过中国纱线流行趋势的发布，最终能够倡导积极向上的生产与生活理念，打造纺织产品发展的风向标，形成行业新的增长点。

The year 2020 marks the ending battle for achieving the China's goal of building a moderately prosperous society in all respects and the "Thirteenth Five-Year Plan". China's textile industry is now taking the initiative to adjust the structure, shift the pattern and promote upgrading in accordance with the positioning requirements for "science and technology, fashion and environmental protection", so that high-quality development of the textile industry is reached.

China Cotton Textile Association (CCTA for short) launched the research and release for China Yarn Trends in 2019. Guided by the principles of "innovation, environmental protection, low-carbon development and fashion", the association aims to explore the products leading the development trends of Chinese yarn, popularize the technology and application of new products and promote the building of yarn brands.

In the product selection process, more than 50 yarn products were submitted by over 20 enterprises. CCTA organizes industries, universities and colleges and enterprise experts to carry out comprehensive evaluation on these products from the perspectives of process technology, fashion culture, market competition, brand culture and so forth. The products that have rational design, excellent performance and strong market applicability were selected for the next round of competition and subjected to serialization elaboration under the theme of "Beautiful Life". Finally, a shortlist for products with the 2020/2021 China Yarn Trends was determined.

The products with 2020/2021 China Yarn Trends are excellent mainly in three directions of performance optimization, function endowing and

green ecology, and are divided into three series of products of colored spun yarn, pure cotton and differentiation series.

Green ecology

Adhere to the concept of green development, abide by the production principle of environmental protection and advocate the life ideas of environmental protection, ecology and recycling in the non-spinning links like raw material selection, dyeing, and after-finishing. Representative products feature organic cotton plant dyeing, environment-friendly coating dyeing, Better Cotton, recycling and regeneration, environmental protection and biodegradable, antibacterial without additives, etc.

Function endowing

The yarn is endowed with more functions like bacteria resistance and bacteriostasis, mite prevention, static electricity resistance, ultraviolet resistance, hygroscopicity, quick drying, high elasticity and stiffness by innovative adoption of the multicomponent fiber and new spinning technology.

Performance optimization

Innovation is made in fiber blending, process adjustment, and equipment modification based on the conventional fiber and traditional spinning process to optimize the yarn performance like pilling resistance, stiffness, easy care, high color fastness, air permeability, cool, fineness, smoothness and elegance.

It is hoped that through the release of China Yarn Trends, the positive production and life philosophy can be advocated, a wind vane for the development of textile products can be set up, and a new growth point of the industry can take shape finally.

有机棉植物染①色纺纱

Organic Cotton Plant Dyeing ① Colored Spun Yarn

产品规格: 100% 有机棉 JC 白 / JC 色 80/20; 50 支

关键词: 绿色环保, 防虫抑菌, 色彩自然

推荐理由: 采用紧密赛络纺纱^②方式, 通过创新色纺工艺管理, 提高植物染色色牢度, 解决化学染色有悖绿色环保的初衷, 植物染料自中草药中提取, 具有防虫、杀菌、护肤及防过敏等功效, 充分体现了生态绿色环保的理念。

适用范围: 婴幼儿服装, 内衣, 居家服等

代表企业: 无锡一棉纺织集团有限公司; 品牌——“TALAK”

产学研: 东华大学、江南大学、哈尔滨工程大学等院校进行合作; 下设纤维新材料应用及新产品研发, 纺织科技情报及新技术、纺织智能制造、纺织绿色生产、中埃纺织技术合作五个研究室

认证、标准及专利: ISO9001 质量管理认证、环保认证等



Product specification: 100% organic cotton JC white / JC color 80/20; 50 counts

Keywords: Green environmental protection, insect prevention and anti-bacterial, natural color

Reasons for recommendation: Adopting compact siro-spinning^② mode, improving the color fastness of plants dyeing through innovative color spinning process management, solving the chemical dyeing contrary to the original intention of green environmental protection. The plant dye was extracted from Chinese herbal medicine, which has the functions of insect prevention, sterilization, skin care and anti-allergy, fully embodying the concept of ecological green environmental protection.

Scope of application: Baby clothing, underwear, home clothes, etc.

Representative enterprise: Wuxi No. 1 Cotton Mill Textile Group Co., Ltd., Brand – “TALAK”

Industry-university-research: It has cooperated with Donghua University, Jiangnan University, Harbin Engineering University and other institutions; and set up five research labs such as fiber new material application and new product research and development, textile science and technology information and new technology, textile intelligent manufacturing, textile green production and Sino-Egypt textile technology cooperation.

Certification, standards and patents: passed the ISO9001 Quality Management Certification and environmental protection certification

指标 Indicator comparison

品种 Variety	有机棉 + 植物染 + 色纺: JC 白 / JC 色 80/20 50sK 紧密赛络纱 Organic cotton + plant dyeing + color spinning: JC white / JC color 80/20 50 sK compact sirospun	普通棉 + 白纺 + 化学染: JC50sK 紧密赛络纱 Ordinary cotton + chemical dyeing + white spinning JC50sK compact sirospun
条干 CV% Evenness CV%	13.05	13.16
棉结 +200%/km Nep+200%/km	49	53.3
毛羽 Hairiness	2.88	3.21
强力 /cN Strength/cN	229.7	223.3
水洗牢度 Washing fastness	4+	4-5



知识补给站 1

植物染属于天然染料的一种, 是从茶叶、中药、水果、草本植物、木本植物和蔬菜中提取色素进行染色, 染色过程中不使用任何化学助剂, 是纯天然环保的工艺技术, 较好地解决了织物染色率低、染色时间长和色牢度差的问题。

原液着色法是在纺丝熔体或者溶液中加入适当的着色母粒或者着色剂, 经充分混合, 纺制成有色纤维。再生纤维素纤维、聚丙烯腈纤维(腈纶)的着色法均属此种方法。

纤维染色是以散纤维或条子为对象的染色工艺, 也称条染。这样的染色方式可以使织物的颜色均匀。

纱线染色是以纱线为对象的染色工艺。主要有: 经轴染色、绞纱染色、筒子纱染色等。

2

紧密赛络纺: 是在改进的环锭细纱机上, 进行纺纱的一种新型纺纱技术。结合了紧密纺和赛络纺的优点, 在纺纱过程中, 由两根粗纱同时被牵伸后, 再合并成一根赛络纱。紧密赛络纱具有单纱强度高、条干均匀、结构紧密、耐磨性好、毛羽少、纱线光洁等优点。既有股纱的风格特点也具有单纱的属性, 紧密赛络纺各项指标比普通环锭纱在不同程度上都有明显的提高。在后道工序还可以提高织造效率, 减少纱线上蜡、上浆量, 减少退浆过程中的环境污染, 并可取消烧毛工序等。紧密赛络纺所织成的织物纹路清晰、光泽好、耐磨、不易起球。

喷气涡流纺: 涡流纺的纺纱原理是, 通过喷射气流形成的涡流场, 带动纤维扭转包缠形成具有皮芯结构的纱线。纱线由近似呈平行无捻状纤维构成的纱芯和外围呈螺旋状包缠的纤维组成。其纱线的特点是: 适宜机织和针织物, 织物手感硬、挺、蓬松、丰满、厚实、透气性好、耐磨、染色性好。

转杯纺: 转杯纺的原理是, 喂入的纤维条被分梳辊开松成单纤维后随气流输送到高速回转的转杯内壁, 在凝聚槽内形成纱尾, 同时被加捻成纱引出, 直接绕成筒子。其纱线特点是织成的织物手感丰满厚实、保暖性好、耐磨、吸浆和吸湿性好, 吸色率高。

TIPS 1

Plant dyeing is a kind of natural dyestuff. It is a pure natural and environmental dyeing technology, which extracts pigment from tea, Chinese medicine, fruit, herbaceous plant, woody plants and vegetables without using chemical additives during the dyeing process. It solves the problems of low dyeing rate, long dyeing duration and poor color fastness.

The stock solution coloring method is to add the appropriate coloring masterbatch or coloring agent in the spinning melt or solution, and then mix and spin to make colored fiber. The coloring method of regenerated cellulose fiber and acrylic fiber (acrylic) all belongs to this method.

Fiber dyeing is a kind of dyeing process with loose fiber or sliver as the object, which is also called sliver dyeing. This method of dyeing provides the fabric with a balance color.

Yarn dyeing is a dyeing process which takes yarn as the object. It mainly includes beam dyeing, skein dyeing and cheese dyeing and so on.

2

Compact siro-spinning: is a new spinning technique on an improved ring spinning frame. Combining the advantages of compact spinning and siro-spinning, two roving are drawn at the same time, and then combined into a siro yarn in the spinning process. The single yarn of compact siro-yarn has the advantages of high strength, even evenness, compact structure, good wear resistance, less hairiness and smooth yarn. It has both the style characteristics of the plied yarn and the properties of single yarn; the indexes of compact siro-spinning are obviously higher than that of the ordinary ring spinning in different degree. In the later process, it can also improve the weaving efficiency, reduce the amount of yarn waxing and sizing, reduce the environmental pollution in the desizing process, and eliminate the singeing process. The fabric made of compact siro-spinning has clear lines, good luster, wear resistance and is not easy to pilling.

Air-jet vortex spinning: the principle of vortex spinning is that the vortex field formed by jet airflow drives the fiber to twist and wrap to form the yarn with leather core structure. The yarn consists of a yarn core of approximately parallel untwisted fibers and a spiral wrapped fiber. Its yarn features are: Suitable for woven and knitted fabrics, with hard hand feeling, stiff, fluffy, full, thick, good permeability, wear resistance and good dyeing fabric.

Rotor spinning: Its principle is that the feed fiber strip is loosened into a single fiber by the combing roller and then transported to the inner wall of the rotor with high speed rotation by air flow. The yarn tail is formed inside the coagulation and is drawn out by twisting into yarn and wound directly into a bobbin. Fabric woven from the yarn has full and thick hand feeling, good warmth, wear resistance, good sizing and hygroscopicity and high color absorption.

绿色抑菌保暖纱

Green Bacteriostatic Warm Yarn

产品规格: 40% 再生纤维素纤维 (优可丝® 安泰贝® 抑菌再生纤维素纤维^③), 30% 棉 (BCI 精梳棉^④), 30% 聚丙烯腈纤维 (腈纶); 纱支 40

关键词: 原液着色、节能环保、保暖抑菌

推荐理由: 采用再生纤维素纤维、原液着色 (见知识补给站^①) 细旦抗起球聚丙烯腈纤维 (腈纶)、BCI 棉纤维通过节能环保的色纺纱工艺进行混纺, 开发出具有抑菌保暖功能的色纺纱; 此外, 多种颜色的混合搭配呈现出朦胧之美, 赛络紧密纺纱技术的应用进一步改善了成纱质量。

适用范围: 秋冬保暖内衣

代表企业: 山东联润新材料科技有限公司; 品牌——“联润”

产学研: 纺织新材料纱线产品开发基地、国家纺织新材料纱线流行趋势研究中心, 建有山东省工业设计中心、山东省新材料纱线工程技术中心、山东省企业技术中心等与天津工业大学、东华大学、青岛大学等国内纺织类高校和科研院所深入交流合作
认证、标准和专利: GB/T 19001-2016 质量管理体系认证、环境管理体系认证、职业健康管理体系认证

指标 Indicator comparison

纱线品种 Yarn varieties		赛络紧密纺 L6532 R/JC/A 40/30/30 14.8 tex Siro-spinning yarn L6532 R/JC/A 40/30/30 14.8 tex
检验项目 Inspection item		检验结果 Inspection result
线密度偏差率 % Yarn density variation rate		+0.6
捻系数 Twist factor		368
捻度 Degree of twist	捻度 (捻 twist/10cm) Degree of twist (twist / 10cm)	95.7
	捻不匀 % Uneven twist %	2.7
强力 Strength	单纱断裂强力 /cN Breaking strength of single yarn /cN	204.5
	单纱断裂强度 cN/tex Breaking tenacity of single yarn cN/tex	13.8
	强力 CV% Strength CV%	4.1
	断裂伸长率 % Elongation at break%	7.7
Uster 条干 Uster Evenness	CVm%	11.84
	-50%/km	1
	+50%/km	15
毛羽 Hairiness	+200%/km	25
	毛羽指数 Hairiness index H	3.47
	3mm 毛羽数 (根 /10m) 3mm Hairiness number (one/10m)	17





Product specification: 40% regenerated cellulose fiber (EcoCosy®, Antaibei® antibacterial regenerated cellulose fibers[®]), 30% cotton (BCI combed cotton[®]), 30% acrylic fiber (acrylic); yarn count 40

Keywords: Stock solution coloring, energy conservation and environment protection, warm and bacteriostatic

Reasons for recommendation: Using regenerated cellulose fiber, stock solution coloring (refer to supplementing knowledge^①), fine denier anti-pilling acrylic fiber (acrylic), BCI cotton fiber, it developed a color spinning yarn with bacteriostatic and warm-keeping function by blending energy-saving and environment-friendly color spinning process; In addition, the multi-color mix-and-match presents the hazy beauty, and the application of siro compact spinning technology has further improved the quality of resultant yarn.

Scope of application: Thermal underwear for autumn and winter

Representative enterprise: Long Run Textile Co., Ltd.; Brand – "Long Run"

Industry-university-research: National Textile New Material Yarn Products Development Base, National Textile New Material Yarn Fashion Trend Research Center, Shandong Industrial Design Center, Shandong New Material Yarn Engineering Technology Center, Shandong Enterprise Technology Center etc.; carrying out in-depth exchanges and cooperation with domestic textile universities and scientific research institutes such as TianGong University, Donghua University and Qingdao University.

Certification, standards and patents: GB/T 19001-2016 Quality Management System Certification, Environmental Management System Certification, Occupational Health Management System Certification



知识补给站 3

优可丝·安泰贝: 优可丝®安泰贝®再生纤维素纤维是一种活性抑菌纤维素纤维, 是通过共混纺丝技术将活性抑菌物质均匀分散在纤维表面及内部, 对细菌、真菌及病毒等微生物具有抑制作用, 获得持久的抑菌效果。目前该纤维由赛得利生产。

4 BCI 棉花: 良好棉花由瑞士良好棉花发展协会 (Better Cotton Initiative, 简称 BCI) 进行认证并颁发证书, 生产原则是培养农民就如何合理使用化肥和农药等形成正确的操作规范, 降低对作物和土壤的破坏, 有效利用水资源, 增强劳动者劳动保护意识, 维护正当的劳动者权益等。

有机棉: 有机棉 (Organic Cotton) 的种植、生产标准完全不同于良好棉花。有机棉需要对土地进行认证, 由常规生产过渡到有机生产需要有转换期, 一般为 3 年。不允许使用转基因种子, 不允许使用任何化肥和农药, 对水资源的使用无要求。

TIPS 3

EcoCosy-Antaibei: EcoCosy® Antaibei® regenerated cellulose fiber is a kind of active bacteriostatic cellulose fiber, which distributes the active bacteriostatic substance on the surface and inside of the fiber by blending spinning technology, it has a long-lasting bacteriostatic effect on bacteria, fungi, virus and other microorganisms. The fiber is currently produced by Sateri.

4 BCI Cotton: Better Cotton is certified by the Better Cotton Initiative (abbreviated as BCI) with a certificate. The principle of production is to train farmers to form correct operating rules on the proper use of fertilizers, pesticides, etc., so as to reduce the damage to crops and soil, effectively use of water resources, enhance workers' awareness of labor protection, and safeguard the legitimate rights and interests of workers.

Organic cotton: Organic Cotton has different planting and production standards from Better Cotton. Organic cotton requires land certification and a transition period from conventional to organic production, typically 3 years. The use of genetically modified seeds is not permitted, no chemical fertilizers or pesticides are permitted, and water use is not required.

环保涂料染色纯棉纱

Pure Cotton Yarn with Environment-friendly Coating Dyeing

产品规格: 100% 棉; 18.2*2 tex

关键词: 零排放、色彩时尚

推荐理由: 一款以创新技术实现产品生态化和时尚化的彩色牛仔纱线。纱线运用多花色新型纱线连续涂料染色技术生产, 生产从源头削减 98% 的用水量, 最终产生的微量废水全部蒸馏回用, 实现了纱线染色全流程的零排放。

适用范围: 创意服装、家纺面料

代表企业: 张家港三得利染整科技有限公司; 品牌——“绿尚”

产学研: 与武汉纺织大学开展科研合作, 江苏省企业研究生工作站, 苏州市近零排放染色工程技术研发中心

认证、标准及专利: 通过了张家港市科技局组织的专家“零排放”鉴定, 获得《含棉纱线的染色方法》等 11 项国家授权发明专利



指标 Indicator comparison

项目 Item	单位 Unit	测试值 Test value
百米重量偏差 Deviation of liner density	%	+6.6
百米重量变异系数 CV Coefficient of variation of liner density CV	%	0.5
单纱断裂强度 Breaking tenacity of single yarn	CN/tex	14.8
单纱断裂强力变异系数 CV Coefficient of breaking strength of single yarn CV	%	9.2
条干均匀度变异系数 CV Coefficient of breaking strength of single yarn CV	%	12.2

Product specification: 100% cotton; 18.2*2 tex

Keywords: Zero emission, fashionable color

Reasons for recommendation: It is a kind of color denim yarn that achieves product ecology and fashion based on innovative technology. The yarn is produced with continuous coating dyeing technology of new multi-color yarn, which reduces the water consumption by 98% from the source, and distills and reuses the final micro-wastewater, thus realizing the zero emission of the whole yarn dyeing process.

Scope of application: Creative clothing, home textile fabrics

Representing enterprises: Zhang Jia Gang Sundeli Dyeing Technology Co. Ltd.; Brand – "Greenvogue"

Industry-university-research: Scientific research cooperation with Wuhan Textile University, graduate workstation of enterprise in Jiangsu Province, Suzhou Near Zero Emission Dyeing Engineering Technology R & D Center

Certification, standards and patents: passed the "zero emission" appraisal organized by the experts of Zhangjiagang Bureau of Science and Technology, and obtained 11 state-authorized invention patents, such as Dyeing Method of Cotton Yarn



循环再生棉纱

Recycled Cotton Yarn

产品规格: 紧密赛络纺棉纤维 / 再生棉 93/7; 11 支

关键词: 循环再利用

推荐理由: 通过一系列环保措施, 从回收的衣服中分离出棉纤维, 以一定的比例与正常棉纤维混合纺纱, 并通过了 RCS 认证[®], 技术手段非常规。

应用领域: 牛仔用纱、家纺产品用纱

代表企业: 山东岱银纺织集团股份有限公司; 品牌——“岱银”

产学研: 与东华大学、江南大学、天津大学建立科研合作关系, 是省部级以上科技和工程中心, 复合纺纱省级实验室

认证、标准及专利: ISO9001 质量管理认证、ISO14001 环境保护认证、OHSAS28001 职业健康安全管理体系认证, 以及 GRS 认证、RCS 认证

Product specification: compact siro-spinning cotton fiber / regenerated cotton 93/7; 11 counts

Key words: Recycling

Reasons for recommendation: Cotton fibers were separated from the recovered clothes and blended with normal cotton fibers in a certain proportion through a series of environmental protection measures. It also passed the RCS certification[®] with unconventional technical means.

Application Fields: Denim yarn, yarn for home textile products

Representing enterprises: Shandong Daiyin Textile Group Share Co., Ltd; Brands – "Daiyin"

Industry-university-research: It has established scientific research cooperative relationship with Donghua University, Jiangnan University and Tianjin University, and has a technology and engineering center at provincial level and above, as well as provincial laboratories of composite spinning

Certification, standards and patents: ISO9001 Quality Management Certification, ISO14001 Environmental Protection Certification, OHSAS28001 Occupational Health and Safety Management System Certification, as well as GRS Certification and RCS Certification

指标 Indicator comparison

项目 Item	单位 Unit	测试值 Test value
百米重量偏差 Deviation of liner density	%	+1.0
百米重量变异系数 CV Coefficient of variation of liner density CV	%	0.6
单纱断裂强度 Breaking tenacity of single yarn	CN/tex	16.1
单纱断裂强力变异系数 CV Coefficient of breaking strength of single yarn CV	%	7.1
实际捻系数 Actual twist multiplier	%	409

知识补给站 5

RCS 认证 (Recycled Claimed Standard), 是纺织交易组织推出的回收 (再生) 方面的标准, 用于使用了再生原料的产品提供认证的依据。

GRS 认证 (Global Recycled Standard), 适用于再生原料含量在 20%-100% 之间的产品, GRS 认证在 RCS 要求的基础上增加了环境和社会责任的要求。

TIPS 5

The Recycled Claimed Standard (RCS) certification refers to the recycled (renewable) standard developed by the textile trade organization, which is used to provide certification for products using recycled materials.

Global Recycled Standard (GRS) certification is applicable to products with recycled material content between 20% and 100%, GRS certification adds environmental and social responsibility requirements on the basis of RCS requirements.

抗紫外线混纺纱

Uv Resistant Blended Yarn

产品规格: 再生纤维素纤维 (再生纤维素纤维[®]) / 珍珠纤维[®] / 抑菌聚酯纤维 / 精梳棉 30/25/25/20

关键词: 养颜护肤、抗紫外线、吸湿透气

推荐理由: 珍珠纤维具有养颜护肤、嫩白皮肤, 抗紫外线的功效, 吸湿透气、服用舒适, 经久耐用。制成的面料既有抑菌、养颜护肤的功效, 又有吸湿透气、穿着舒适、抗紫外线以及发射远红外线等功能。

适用范围: 家纺、服装、内衣

代表企业: 夏津仁和纺织科技有限公司; 品牌——“仁杰”、“舒馨”

产学研: 与东华大学、青岛大学、德州学院建立了良好的技术交流合作关系, 是国家高新技术企业, 已有多个省、市级研发技术平台

认证、标准和专利: ISO9001 质量认证、ISO14001 环境认证

实用新型专利: 一种紧密纺小罗拉组合 (ZL201821387314.1)

指标 Indicator comparison

项目 Item	指标 Index
强力 Strength cN	≥ 175CN
强力 Strength CV%	≤ 8.5%
条干 Evenness	≤ 12.8
-50% 细节 Snick	≤ 5
+50 粗节 Nub	≤ 18

Product specification: Regenerated cellulose fiber (regenerated cellulose fiber[®]) / pearl fiber[®] / bacteriostatic polyester fiber / combed cotton

Key words: Beauty skin care, UV resistant, moisture absorption and breathable

Reasons for recommendation: Pearl fiber has the effect of nourishing skin, whitening skin, resisting UV, absorbing moisture, and is very comfortable and durable. The fabric made from pearl fibers can resist bacteria, nourish skin, absorb moisture, and is breathable, comfortable, UV resistant as well as emitting far infrared rays.

Scope of application: Home textile, clothing, underwear

Representing enterprises: Xiajin Renhe Textile Technology Co., Ltd.; Brands – "Renjie", "Shuxin"

Industry-university-research: It has established a good technical exchange and cooperation with Donghua University, Qingdao University, Dezhou University, and is the national high-tech enterprise with a number of provincial and municipal R & D technology platform.

Certification, standards and patents: ISO9001 Quality Certification, ISO14001 Environment Certification

Utility model: a kind of compact spinning small roller assembly(ZL201821387314.1)



知识补给站 6

再生纤维素纤维: 是以“木”为原材料, 从天然木纤维素中提取并重塑纤维分子而得到的纤维素纤维。由纤维素原料提取出纯净的 α -纤维素(称为浆粕), 用烧碱、二硫化碳处理, 得到橙黄色的纤维素黄原酸钠, 再溶解在稀氢氧化钠溶液中, 成为粘稠的纺丝原液, 称为再生纤维素纤维。再生纤维素纤维经过滤、熟成、脱泡后, 进行湿法纺丝, 凝固浴由硫酸、硫酸钠和硫酸锌组成。再生纤维素纤维中的纤维素黄原酸钠与凝固浴中的硫酸作用而分解, 纤维素再生而析出, 所得纤维素纤维经水洗、脱硫、漂白、干燥后成为再生纤维素纤维。

莱赛尔纤维: 是国际人造及合成纤维标准局对通过有机溶剂纺丝法制得的纤维素纤维的统称, 主要以NMMO为溶剂, 以天然植物纤维为原料, 兼具天然纤维和合成纤维的多种优良性能。莱赛尔是绿色纤维, 其原料是自然界中取之不尽用之不竭的纤维素, 生产过程无化学反应, 所用溶剂无毒。受健康环保意识、崇尚自然等因素的影响, 再生纤维素纤维重新出现了迅猛的增长。

莫代尔纤维 莫代尔纤维是一种纤维素纤维, 由产自欧洲的灌木林(山毛榉)制成木质浆液后经过专门的纺丝工艺制作而成。莫代尔纤维具有合成纤维的强力和韧性, 强力高于纯棉、涤棉, 具有良好的形态与尺寸稳定性, 使织物具有天然的抗皱性和免烫性, 使穿着更加方便、自然。

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珍珠纤维: 是采用共混方法将纳米级珍珠粉添加到纤维中, 使纤维内和外表均匀分布着纳米珍珠微粒, 一根根纤维犹如一串串珍珠项链, 异常光亮清爽。现代科学分析表明, 珍珠含有丰富的钙和镁、磷、锌等多种微量元素, 还有18种氨基酸, 其中7种是必需氨基酸, 多种蛋白质和短肽, 生长促进因子及以一些现有科学技术尚无法进行研究的活性因子。

TIPS 6

Regenerated cellulose fiber: It is a kind of cellulose fiber which is obtained by extracting and remodeling fiber molecules from natural lignocellulose with "wood" as the raw material. Pure α -cellulose (pulp) was extracted from cellulose raw materials and treated with caustic soda and carbon disulfide to obtain orange-yellow sodium cellulose xanthate, which was dissolved in dilute sodium hydroxide solution and then became a viscous spinning solution, which is called regenerated cellulose fiber. After filtering, curing and defoaming, the regenerated cellulose fiber is spun by wet spinning. The coagulating bath consists of sulfuric acid, sodium sulfate and zinc sulfate. Sodium cellulose xanthate in regenerated cellulose fibers was decomposed by the action of sulfuric acid in solidification bath, thus cellulose was regenerated and precipitated, which becomes regenerated cellulose fibers after washing, desulfurization, bleaching and drying.

Lyocell fiber: The generic term for cellulose fibers produced by organic solvent spinning by the International Bureau for Rayon and Synthetic Fibers Standard. It mainly uses NMMO as the solvent and natural fiber plants as the raw material, it has many excellent properties of natural fiber and synthetic fiber. Lyocell belongs to green fiber, and its raw material is cellulose, which is inexhaustible in natural. No chemical reaction in the production process, and the solvent used is non-toxic. Regenerated cellulose fiber reappeared the rapid growth due to its health and environmental protection consciousness and advocating of nature.

Modal fiber: Modal fiber is a cellulose fiber made from wood pulp from the European shrubbery (beech) with special spinning process. Modal fiber has both the strength and toughness of synthetic fiber, whose strength is higher than pure cotton and polyester cotton with good shape and stable dimension. The fabric made of it has a natural crease resistance and wash and wear resistance, making it more convenient and natural to wear.

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Pearl fiber: adopts blending method to add nanometer pearl powder to fiber, making the inner and outer surface of the fiber evenly distributed with nanometer pearl particles. Each fiber is like a string of pearl necklace, which is very bright and smooth. Modern scientific analysis shows that pearls are rich in calcium and magnesium, phosphorus, zinc and other micronutrient, as well as 18 amino acids, seven of which are essential amino acid, a variety of proteins and short peptides, growth-promoting factors and active factors which cannot be studied by existing science and technology.



抑菌纤维混纺纱

Antibacterial Fiber Blended Yarn

产品规格: 莫代尔® 70/ 禾素® 30; 32 支

关键词: 防虫抑菌、柔软亲肤

推荐理由: 纱线有真丝的风格与手感, 同时兼具优良的抑菌性、生物相容性、生物安全性、可降解性等。禾素纤维不需要添加任何化学抑菌助剂或金属离子即可达到抑菌的目的。将禾素纤维与其他纤维混纺所制备的面料, 抑菌效果 99% 以上, 达到抑菌 AAA 级标准, 且多次洗涤抑菌效果不衰减。产品通过了抑菌性、可降解性、生物基、食品级安全检测。

适用范围: 功能性针织、梭织、产业用纺织品

代表企业: 南京禾素时代抗菌材料科技有限公司; 品牌——“禾素时代”

Product specification: Modal® 70 / BIOSERICA® 30; 32 counts

Keywords: Insect-proof and bacteria-proof, soft and skin-friendly

Reasons for recommendation: The yarn has the style and hand feeling of silk, as well as excellent antibacterial activity, biocompatibility, biosafety and degradability. It is not necessary to add any chemical bacteriostatic agent or metal ion to the BIOSERICA fiber to achieve the purpose of bacteriostatic. The bacteriostatic effect of the fabric made from the mixture of the BIOSERICA fiber and other fibers was over 99%, which reached the level of AAA, and its bacteriostatic effect does not decline after washing for many times. The product has passed many detections such as antibacterial activity, degradability, biology base and food-grade safety.

Scope of application: Functional knitting, woven, industrial textiles

Representing enterprises: Nanjing Bioserica Era Antibacterial Materials Technology Co.,; Brand – “BIOSERICA® ERA”



指标 Indicator comparison

品种 Variety	单纱断裂强度 (cN/tex) Breaking tenacity of single yarn	条干 CV% Evenness CV%	抑菌性 Antibacterial activity
JC32S	16.5	13.5	无 No
JC70/ 禾素 30-32 支 JC70/ BIOSERICA 30-32 counts	16.0	14.0	大肠杆菌: 88%; 金黄色葡萄球菌: 99%; 白色念珠菌: 87%; Escherichia coli: 88%; Staphylococcus aureus; 99%; Candida albicans; 87%
MD40S	16.0	12.0	无 No
MD70/ 禾素 30-40 支 MD70/ BIOSERICA 30-40 counts	15.9	12.4	大肠杆菌: 86%; 金黄色葡萄球菌: 99%; 白色念珠菌: 95%; Escherichia coli: 86%; Staphylococcus aureus; 99%; Candida albicans; 95%



知识补给站 8

禾素纤维: 聚羟基丁酸羟基戊酸酯 (PHBV) 由于具有优异生物相容性和可降解性, 获得国内外学者的青睐, 但由于其原料加工窗口窄, 易于热降解且熔体粘度大, 故可纺性较差。近几年, 通过共混改性技术, 经过熔融纺丝制备 PHBV/PLA 共混纤维, 产品具有真丝光泽和手感, 可应用于高档服装、卫生护理、医卫材料领域。

TIPS 8

Hesu fiber: Because of its excellent biocompatibility and degradability, polyhydroxybutyrate valerate (PHBV) has been favored by scholars at home and abroad, but its spinnability is poor due to its narrow raw material processing window, easy thermal degradation and high melt viscosity. In recent years, PHBV / PLA blend fiber was prepared by melt spinning through blending modification technology. The product has silk luster and hand feeling, and can be used in high-grade clothing, health care and medical materials.

环保可降解纱

Environment-friendly Degradable Yarn

产品规格: 丁纶® 100%, 32 支

关键词: 环保可降解

推荐理由: 丁纶纱线所纺的面料具有弹性和舒适性, 既能提供其他化纤原料无法匹敌的天然手感和悬垂性, 又克服了传统氨纶面料弹性回复性差、不耐日晒和多次穿着后弹性松弛变形等缺点, 给面料的开发提供更多的可能。

适用范围: 环保服饰、购物袋、家纺用品等

代表企业: 临邑恒丰纺织科技有限公司; 品牌——“恒锦”、“恒惠”

产学研: 与德州学院、天津工业大学、青岛大学、奥地利兰精公司、天津纤维产业联盟, 午和差别化纤维有限公司等单位建立长期稳定的合作关系, 是山东省企业技术中心, 市级特种纱线工程技术研究中心

Product specification: Polybutylenesuccinate® 100%, 32 counts

Key words: Environment-friendly degradable

Reasons for recommendation: The fabric made from the nylon yarn is elastic and comfortable and can provide the natural hand feeling and draping that other chemical fiber raw materials cannot match. It also overcomes the shortcomings of the traditional spandex fabric, such as poor elastic resilience, not resistant to sun and elastic relaxation deformation after wearing for many times and provides more possibilities for the fabric development.

Scope of application: Green clothing, shopping bags, home textile supplies, etc.

Representing enterprises: Linyi Hengfeng Textile Technology Co., Ltd.; Brand – “Hengjin”, “Henghui”

Industry-university-research: It has established long-term and stable cooperative relations with Dezhou University, Tianjin Polytechnic University, Qingdao University, Austrian Lenzing Group, Tianzhu Fiber Industry Alliance and Wuhe Differentiation Fiber Co., Ltd., etc. It is the enterprise technology center of Shandong Province, municipal engineering research center for special yarns.



指标 Indicator comparison	
项目 Item	品种 Variety
	丁纶 18.5KS Nylon18.5KS
重量 CV% Weight CV%	1.39
单强 CV% Strength of single yarn CV%	7.56
断裂强度 cN/tex Breaking strength cN/tex	13.1
重量偏差 % Weight deviation %	0.27
捻度 (捻 /10cm) Twist (twist /10cm)	82.6
捻系数 Twist multiplier	355
捻度 CV% Twist CV%	3.4
平均强力 cN Average strength cN	242.5
条干 CV% Evenness CV%	13.56
-50% 细节 -50% Snick	3
+50% 粗节 +50% Nub	25.6
+200% 棉结 +200% Nep	33.6
3mm 毛羽指数 3mm Hairiness index	0.85

知识补给站 9

丁纶: 是丁二酸丁二醇酯, 是一种集合天然纤维和化学纤维共有优点的一种全新的全生物降解纤维。它可以在细菌或者酶的作用下完全分解成水和二氧化碳, 对环境无污染, 完美的实现了资源的循环利用。

TIPS 9

Dylon: It is polybutylene glycol adipate, is a kind of new all-biodegradable fiber combining the common advantages of natural fiber and chemical fiber. It can be completely decomposed into water and carbon dioxide under the action of bacteria or enzymes, which has no pollution to the environment, the perfectly realizes the recycling of resources.

抗紫外线吸湿速干纱

UV-resistant, Moisture Absorption and Quick Drying Yarns

产品规格: 80% 聚酯纤维、20% 莱赛尔纤维; 40 支

关键词: 抗紫外线、吸湿速干

推荐理由: 采用赛络紧密纺纱技术, 将具有抗紫外线功能的聚酯纤维与莱赛尔纤维混纺, 纱线具有持久抗紫外功能、吸湿速干、防暑隔热、触感凉爽的效果。所采用的抗紫外功能性纤维是将 TiO₂ 制成纳米级颗粒后, 与聚酯纤维进行共混纺丝, 制成的改性纤维具有良好的抗紫外线功能, 对纺织品的色牢度、白度和强度等没有影响。

适用范围: 休闲 T 恤, 衬衫等

代表单位: 山东联润新材料科技有限公司; 品牌——“联润”

产学研: 国家纺织新材料纱线产品开发基地、国家纺织新材料纱线流行趋势研究中心, 建有多个省技术中心等; 与天津工业大学、东华大学、青岛大学等国内纺织类高校和科研院所深入交流合作

认证、标准和专利: GB/T 19001-2016、ISO9001-2015 质量管理体系、环境管理认证、职业健康管理体系认证; 产品生产执行标准 FZ/T12004-2015《涤纶与粘胶纤维混纺本色纱》

指标 Indicator comparison

纱线品种 Yarn varieties	赛络紧密纺 T/Ly 80/20 14.8 tex Siro compact spinning T/Ly 80/20 14.8 tex	检验结果 Test results
	检验项目 Test items	
	线密度偏差率 % Yarn density deviation %	-0.8
捻度 Twist	捻系数 Yarn density deviation %	324
	捻度 (捻 / 10cm) Twist (Twist / 10 cm)	84.1
	捻不匀 % Uneven twist %	0.95
强力 Strength	单纱断裂强力 /cN Breaking strength of single yarn /cN	446.4
	单纱断裂强度 cN/tex Breaking tenacity of single yarn cN/tex	30.2
	强力 CV% Strength CV%	6.9
	断裂伸长率 % Elongation at break %	11.5
Uster 条干 Uster Yarn evenness	CVm%	11.46
	-50%/km	0.5
	+50%/km	5
毛羽 Hairiness	+200%/km	12
	毛羽指数 H Hairiness index H	2.79
	3mm 毛羽数 (根 / 10m) 3mm Hairiness number (Root / 10 m)	9.8



Product specifications: Product specifications: 80% polyester fiber, 20% lyocell fiber; 40 counts

Key words: UV-resistant, moisture absorption and quick drying

Reasons for recommendation: By using Siro compact spinning technology, polyester fiber with anti-ultraviolet function is blended with lyocell fiber. The yarns have long-lasting anti-ultraviolet function, with effects of moisture absorption and quick-drying, heat-proof and heat insulation, and cool touch. The fibers used with anti-ultraviolet function are nano-sized particles made of TiO₂ and blended with polyester fibers. The modified fibers have good anti-ultraviolet function, and there is no effect on color fastness, whiteness, and strength, etc.

Scope of application: T-shirts, shirts, etc.

Representing enterprises: Long Run Textile Co., Ltd.; brand - "Long Run"

Industry-university-research: National Textile New Material Yarn Products Development Base, National Textile New Material Yarn Trend Research Center, and several provincial technology centers; etc. In-depth exchanges and cooperation have been conducted by domestic textile universities and research institutes such as Tianjin Polytechnic University, Donghua University, and Qingdao University

Certification, standards and patents: GB/T 19001-2016, ISO9001-2015 Quality management system, environmental management certification, occupational health management system certification; production execution standard FZ / T12004-2015 "Polyester and viscose fiber blended natural yarns"

紧赛纺柔感弹力纱

Compact Siro Spinning Soft Stretch Yarns

产品规格: 舒弹丝® 35%、精梳长绒棉 65%; 40 支

关键词: 手感柔软、回弹性好

推荐理由: 纱线条干、棉结、毛羽等主要指标处于行业领先水平; 织成的舒弹丝面料具有适中的弹性, 手感柔软、蓬松、亲肤、优异的尺寸稳定性、良好的抗皱性、极佳的吸湿快干性等; 同时解决了传统氨纶包芯纱面料的鼓包、疲劳松弛、织造麻烦、露丝等问题。

适用范围: 色织衬衫面料

代表单位: 江苏悦达棉纺有限公司; 品牌——“悦达纺织”

产学研: 与盐城工学院、盐城工业职业技术学院以及江南大学在新产品开发应用方面开展产学研合作, 建立企业中心实验室

认证、标准及专利: GB/T19001-2016、ISO9001: 2015 质量管理认证、USTER 认证

Product specification: 35% Sorona®, 65% long-staple combed cotton; 40 counts

Keywords: Soft feel and good resilience

Reasons for recommendation: The main indicators such as yarn evenness, nep, and hairiness are at the leading level in the industry; the woven Sorona fabric has moderate elasticity, softness and fluffiness, skin-friendly, excellent dimensional stability, good wrinkle resistance, excellent moisture absorption and quick-drying, etc.; at the same time, it solves the problems of bulging, fatigue relaxation, weaving trouble, and silk reveal of traditional spandex core-spun yarn fabrics.

Scope of application: Yarn-dyed shirt fabrics

Representing enterprises: Jiangsu Yueda Cotton Spinning Co., Ltd; brand – “YDTEX”

Industry-university-research: Industry-University-Research Cooperation with Yancheng Institute of Technology, Yancheng Polytechnic College, and Jiangnan University and establish corporate -centered laboratory

Certifications, standards and patents: GB / T19001-2016, ISO9001: 2015 quality management certification, USTER certification

指标 Indicator comparison

生产厂家 Manufacturer	悦达棉纺 YDTEX	其它单位 Other companies
品种 Variety	紧密赛络纺舒弹丝 Tight siro spinning Sorona 35/JC65 40S 长	
纱号偏差% Yarn number deviation %	-0.2	+0.4
强力 cN Strength CN	285	268
强力 CV Strength CV%	8.5	9.2
伸长率 Elongation %	5.9	5.6
条干 CV% Yarn evenness CV%	11.3	12.2
-50%	2	3
+50%	4	6
+140%	50	84
+200%	9	14
毛羽指数 H Hairiness index H	3.08	3.43
捻系数 Twist factor	431	418
纤维含量 Fiber content	舒弹丝 Sorona : 34.6% 棉 Cotton : 65.4%	舒弹丝 Sorona : 35.2% 棉 Cotton : 64.8%



知识补给站 10

舒弹丝: 源自杜邦的一种新型生物质弹性聚酯短纤维, 它采用含有 37% 植物性天然可再生资源制备的“Sorona”聚合物, 经独特的加工工艺制备而成, 其三维螺旋结构和结晶形态赋予了纤维独特的性能。

TIPS 10

Sorona: A new type of biomass elastic polyester staple fiber from DuPont. It uses a “Sorona” polymer made from 37% plant-based natural renewable resources and is prepared by unique processing technology. The structure and crystalline morphology give the fiber unique properties.

聚乳酸混纺纱

Polylactic Acid Blended Yarns

产品规格: 精梳棉聚乳酸纤维®混纺纱; 40支

关键词: 柔软耐磨、轻薄、吸湿性好

推荐理由: 手感柔软, 强度高、毛羽少、条干均匀度好, 应用其制成的针织物纺织品布面光洁、轻薄、柔软、抗起毛起球性能优异、顺滑、耐磨、亮丽、吸湿性好, 具有真丝般的手感, 是制作高档T恤、运动装、衬衫等服装的理想面料。

适用范围: 高档T恤、运动装、衬衫等服装

代表单位: 南通双弘纺织有限公司; 品牌——“双弘”

产学研: 与东华大学、江南大学开展产学研合作, 推广新型纤维材料及应用。同时也是中国棉纺织行业协会纱线检测中心, 纺织行业新型纤维纺纱技术创新中心

认证、标准和专利: ISO9001、ISO14001、ISO45001 质量管理认证

指标 Indicator comparison

品种 Variety	条干 cv% Yarn evenness CV%	细节 -50% -50% Snicks	+50% 粗节 +50% Nubs	+200% 棉结 +200% Nep	毛羽 H Hairiness H	强力 cN Strength cN
聚乳酸 40 支 Polylactic acid 40 yarns	11.15	0	4.5	7.5	4.39	333
JC/ 聚乳酸 60/40 40 支 JC / polylactic acid 60/40 40 yarns	12.68	4	27.5	48	3.58	337
Tencel/ 聚乳酸 55/45 60 支 Tencel/ polylactic acid 55/45 60	13.69	8.5	43.5	53	3.96	311
Tencel/ 聚乳酸 55/45 40 支 Tencel/ polylactic acid 55/45 40	12.33	0	14.5	22	4.39	321

Product specification: Combed cotton polylactic acid fiber® blended yarns; 40 yarns

Keywords: Soft and abrasion-resistant, light and thin, good moisture absorption

Reasons for recommendation: Soft touch, high strength, less hairiness, and good evenness. The knitted textile fabric made of it is bright and clean, light, soft, anti-pilling, smooth, wear-resistant, bright, and has good moisture absorption. With a silky feel, it is an ideal fabric for making high-end T-shirts, sportswear, shirts and other clothing.

Scope of application: T-shirts, sportswear, shirts and other clothing

Representing enterprises: Nantong Doublegreat Textile Co., Ltd.; brand - "Double Great"

Industry-university-research: Industry-university-research cooperation with Donghua University and Jiangnan University to promote new fiber materials and applications. At the same time, it is also the yarn testing center of China Cotton Textile Association, and the new fiber spinning technology innovation center of the textile industry.

Certification, standards and patents: ISO9001, ISO14001, ISO45001 quality management certification



知识补给站 11

聚乳酸是由木薯、甜菜、蔗糖、秸秆等原料经微生物发酵而成的小分子乳酸经聚合而成的高分子材料, 具有可靠的生物安全性、生物可降解性、环境友好性、良好的力学性能及易于加工成形等优点, 符合环保要求和人们对高质量产品的需求, 因此聚乳酸在包装、医药、纺织、日用品、农用地膜等行业具有广阔的应用前景。

TIPS 11

Polylactic acid: It is a polymer material obtained by polymerizing small molecule lactic acid produced by microbial fermentation of cassava, sugar beet, sucrose, straw and other raw materials. It has reliable biological safety, biodegradability, environmental friendliness, good mechanical properties, easy processing and other advantages meet the requirements of environmental protection and people's demand for high-quality products. Therefore, polylactic acid has broad application prospects in packaging, medicine, textile, daily necessities, agricultural mulch films and other industries.



功能性保健混纺纱

Functional Health Blended Yarns

产品规格: 莫代尔 50%/ 聚丙烯腈纤维 (腈纶)、30%/ 石墨烯纤维® 20%; 50 支

关键词: 亲肤保暖、吸湿透气、防虫抑菌

推荐理由: 运用三种不同功能的纤维进行复合, 既具有聚丙烯腈纤维 (腈纶) 的保暖、莫代尔纤维的吸湿舒适等优点、又具有石墨烯纤维独特的远红外、抑菌、抗紫外线、调节人体微循环、促进深度睡眠等功能性特点, 纺制的纱线具有良好复合功能性。经拉毛表面处理后, 做单染、双染整工艺后, 布面风格独特, 色彩五彩斑斓, 深受客户欢迎。

适用范围: 医药用品、运动服饰、羽绒服、家用纺织品等

代表单位: 山东超越纺织有限公司

产学研: 与山东省纺织科学研究院合作开发生物质石墨烯系列混纺纱; 山东省纺织产品质量监督检验测试中心, 省级“一企一技术创新企业”以及多个市级重点实验室和研究中心

认证、标准及专利: ISO9001; 2015 质量管理体系认证; 达到 FZ/T 12051-2016《腈纶粘胶纤维混纺本色纱线》优等品标准; 获得“一种抑菌混纺纱线及其纺纱工艺”等多个专利

Product specification: Modal 50% / polyacrylonitrile fiber (acrylic) 30% / graphene fiber; 50 yarns

Keywords: Skin-friendly and warm, moisture absorption and breathability, insect control and antibacterial

Reasons for recommendation: The use of three different functional fibers for compounding, not only has the advantages of polyacrylonitrile fiber (acrylic fiber) to keep warm, modal fiber's moisture absorption and comfort, but also has the unique functional features of graphene fiber such as far-infrared, antibacterial, anti-ultraviolet, and human microcirculation and promoting deep sleep. The spun yarn has good compound functionality. After brushed surface treatment, single dyeing, double dyeing and finishing process, the cloth has a unique and colorful style, which is overwhelmingly welcomed by customers.

Scope of application: medical supplies, sportswear, down jackets, home textiles, etc.

Representing enterprises: Shandong Chao Yue Textile Co., Ltd.

Industry-university-research: Cooperation with Shandong Textile Institute to develop biomass graphene series blended yarns; Shandong Textile Product Quality Supervision and Testing Center, provincial "one enterprise, one technology innovation enterprise" and several municipal key laboratories and research center

Certifications, standards and patents: ISO9001; 2015 quality management system certification; superior product standard of FZ / T 12051-2016 "Acrylic Viscose Fiber Blended Natural Yarns"; multiple patents of "a bacteriostatic blended yarns and its spinning process"

指标 Indicator comparison

检测结论 Test conclusion		该送检样品经检测, 所检项目符合 FZ/T12051-2016 (腈纶粘胶纤维混纺本色纱线) 优等品技术要求 The samples submitted for inspection have been tested and the tested items meet the superior product technical requirements of FZ / T12051-2016 (blended natural yarns)	
检测项目 Tested items	检测结果 Test results	标准要求 Standard requirement	
线密度偏差率 (%) Yarn density deviation (%)	0	± 2.0	
线密度变异系数 (%) Coefficient of variation of yarn density(cN/tex)	1.0	≤ 2.0	
单纱断裂强度 (cN/tex) Breaking tenacity of single yarn (%)	13.2	≥ 12.0	
单纱新装强力变异系数 (%) Coefficient of breaking strength of single yarn CV (%)	8.7	≤ 10.0	
条干均匀度变异系数 (%) Coefficient of variation of evenness (%)	12.5	≤ 13.0	
千米棉结 (个 / 10 ³ m) 1,000-meter nep (pcs / 10 ³ m)	14	≤ 26	
纤维含量 (%) Fiber content (%)	再生纤维素纤维 Regenerated Cellulose Fiber	70.4	(50+20) ± 1.5
	腈纶 Polyacrylonitrile fiber (acrylic)	29.6	30 ± 15

知识补给站 12

石墨烯自 2004 年在英国曼彻斯特大学实验室被正式制备以来, 受到全世界关注, 被誉为“新材料之王”。石墨烯纤维可分为以再生纤维素纤维、锦纶、氨纶、涤纶等纤维为载体的石墨烯改性纤维种类。生物质石墨烯是石墨烯大家族中的一员。它是以玉米芯多孔活性纤维素为原料, 采用基团配位组装 (GCA) 法, 在热催化条件下经过配位组装、高温碳化、逐步迁移、有序附着、薄层分离等精细加工工艺而得到, 属全球首创。生物质石墨烯改性纤维具有远红外、抑菌抗菌、预防螨虫、防静电、抗紫外线、吸湿快干、调节人体微循环、促进深度睡眠等功能性, 可用于医药用品、运动服饰、羽绒服、睡袋、棉被、床垫、靠枕、枕芯、披肩等高端纺织品。

TIPS 12

Since graphene was formally prepared in the laboratory of University of Manchester in the United Kingdom in 2004, it has attracted worldwide attention and is known as the "king of new materials". Graphene fibers can be divided into graphene-modified fibers based on fibers such as regenerated cellulose fibers, nylon, spandex, and polyester. Biomass graphene is a member of the large graphene family. It uses corn cob porous active cellulose as raw material, adopts group coordination assembly (GCA) method, and undergoes fine assembly processes such as coordination assembly, high-temperature carbonization, gradual migration, orderly adhesion, and thin layer separation under thermal catalytic conditions, which is pioneering in the world. Biomass modified graphene fiber is far-infrared, bacteriostatic, anti-mite, antistatic, anti-ultraviolet, moisture absorption and quick-drying, and has functions of regulating human microcirculation and promoting deep sleep. It can be used in high-end textiles such as medical supplies, sportswear, down jackets, sleeping bags, quilts, mattresses, pillows, pillow cores, shawls and so on.

涡流纺莱赛尔混纺纱

Vortex Spinning Lyocell Blended Yarns

产品规格：莱赛尔 / 棉 / 铜氨纤维[®] 25/50/25；20-50 支

关键词：吸湿透气、丝滑挺括

推荐理由：涡流纺具有高速、高效和高自动化的特点。采用涡流纺纱技术[®]，纱线具有特殊的包缠结构，纱线结构比较蓬松，因而其染色性、吸浆性、透气性较好；纱线的毛羽、抗起球性和耐磨性较好。织物具有良好的吸湿性和透气性，轻柔滑爽，悬垂性和光泽度好。

适用范围：高档丝织或针织物

代表企业：浙江双盾纺织科技有限公司；品牌——“双盾”、“沃特丝”

产学研：与东华大学、浙江纺织服装职业技术学院开展科研合作，省部级以上工程中心、市级纺织服装重点实验室、研发开发中心

认证、标准及专利：获得 ISO9001 和 ISO14001 质量管理认证；参与制定并应用标准 T/ZB 0453-2018《涡流纺莱赛尔、棉、铜氨混纺本色纱》

Product specification: Lyocell / Cotton / Copper ammonia fiber[®] 25/50/25;20-50 yarns

Keywords: Moisture absorbing and breathable, silky stiff

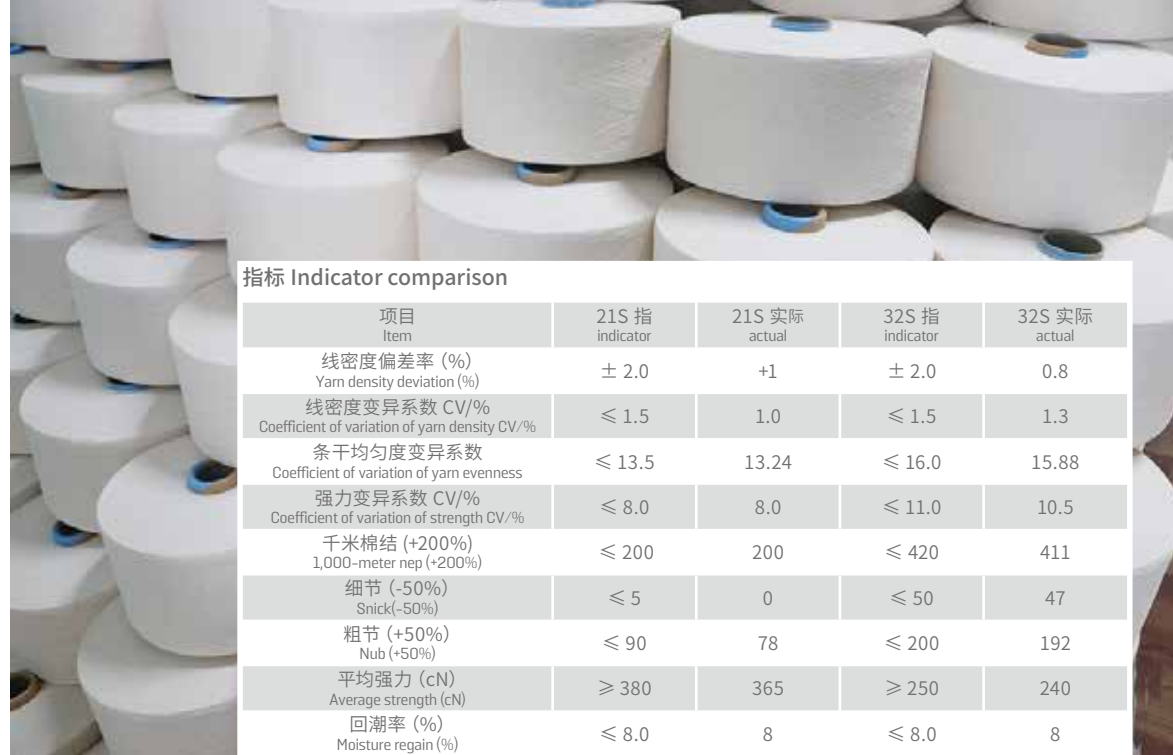
Reasons for recommendation: Vortex spinning is characterized by high speed, high efficiency and high automation. If the vortex spinning technology is adopted (14), the yarn has a special wrapping structure, whose structure is relatively bulky, so its dyeability, pulp absorption, and air permeability are good; the yarns has better hairiness, pilling resistance and abrasion resistance. The fabric has good moisture absorption and breathability, softness and smoothness, good drapability and gloss.

Scope of application: High-grade silk or knitted fabrics.

Representing enterprises: Zhejiang Shuangdun Textile Technology Co., Ltd.; brands - "ShuangDun", "WTS"

Industry-university-research: Research cooperation with Donghua University, Zhejiang Fashion Institute of Technology, provincial and ministerial engineering centers, key laboratories of municipal textile and apparel, research and development centers

Certifications, standards and patents: ISO9001 and ISO14001 quality management certifications; participation in the development and application of the standard T / ZB 0453-2018 "Vortex spinning lyocell, cotton, copper ammonia blended natural yarns"



指标 Indicator comparison

项目 Item	21S 指 indicator	21S 实际 actual	32S 指 indicator	32S 实际 actual
线密度偏差率 (%) Yarn density deviation (%)	± 2.0	+1	± 2.0	0.8
线密度变异系数 CV/% Coefficient of variation of yarn density CV/%	≤ 1.5	1.0	≤ 1.5	1.3
条干均匀度变异系数 Coefficient of variation of yarn evenness	≤ 13.5	13.24	≤ 16.0	15.88
强力变异系数 CV/% Coefficient of variation of strength CV/%	≤ 8.0	8.0	≤ 11.0	10.5
千米棉结 (+200%) 1,000-meter nep (+200%)	≤ 200	200	≤ 420	411
细节 (-50%) Snick(-50%)	≤ 5	0	≤ 50	47
粗节 (+50%) Nub (+50%)	≤ 90	78	≤ 200	192
平均强力 (cN) Average strength (cN)	≥ 380	365	≥ 250	240
回潮率 (%) Moisture regain (%)	≤ 8.0	8	≤ 8.0	8
3mm 毛羽指数 3 mm hairiness index	3.25	0.45	3.25	0.45



知识补给站 13

铜氨纤维是一种再生纤维素纤维，取自棉花种子周边的绒毛，100% 纤维素纤维，它是将棉短绒等天然纤维素原料溶解在氢氧化铜或碱性铜盐的浓氨溶液内，配成纺丝液，在凝固浴中铜氨纤维素分子化学物分解再生出纤维素，生成的水合纤维素经后加工即得到铜氨纤维。

14

涡流纺和转杯纺区别：一般环锭纺纱机每台机器的发尘量超过 90mg/s，而涡流纺的每台机器的发尘量不超过 50mg/s，在控制好生产温湿度的前提下，加强车间回风的巡回次数；涡流纺设备优势充分体现环保优势，改善了环境。

TIPS 13

Copper ammonia fiber is a kind of regenerated cellulose fiber, taken from the fluff around cotton seeds, a 100% cellulose fiber. Natural cellulose raw materials such as cotton linter are dissolved in a concentrated ammonia solution with copper hydroxide or alkaline copper salt, and a spinning solution is prepared. In the coagulation bath, the copper ammonia cellulose molecular chemical is decomposed to regenerate cellulose, and the generated hydrated cellulose is processed to obtain copper ammonia fibers.

14

The difference between vortex spinning and rotor spinning: The dust emission of each ring spinning machine exceeds 90 mg / s, while the dust emission of each machine of vortex spinning does not exceed 50 mg / s. Under the premise of controlling the production temperature and humidity, the frequency of return air in the workshop is strengthened; vortex spinning equipment fully reflects the advantages of environmental protection and improves the environment.

再生纤维长丝高弹纱

High Elastic Yarns of Regenerated Fiber Filament

产品规格: PBT 和再生纤维生物基长丝捻线; 44 支

关键词: 高弹、尺寸稳定

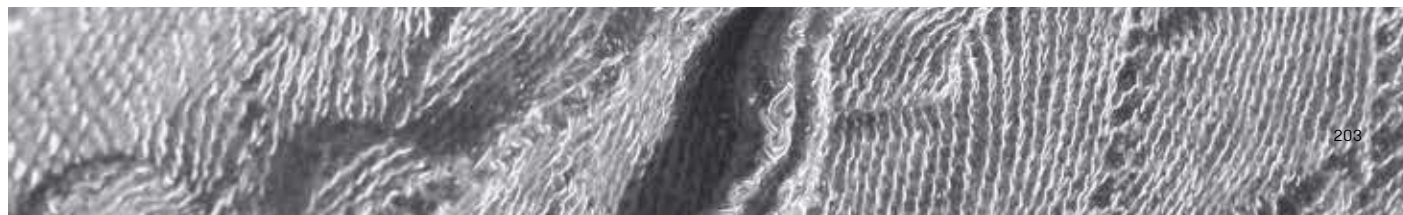
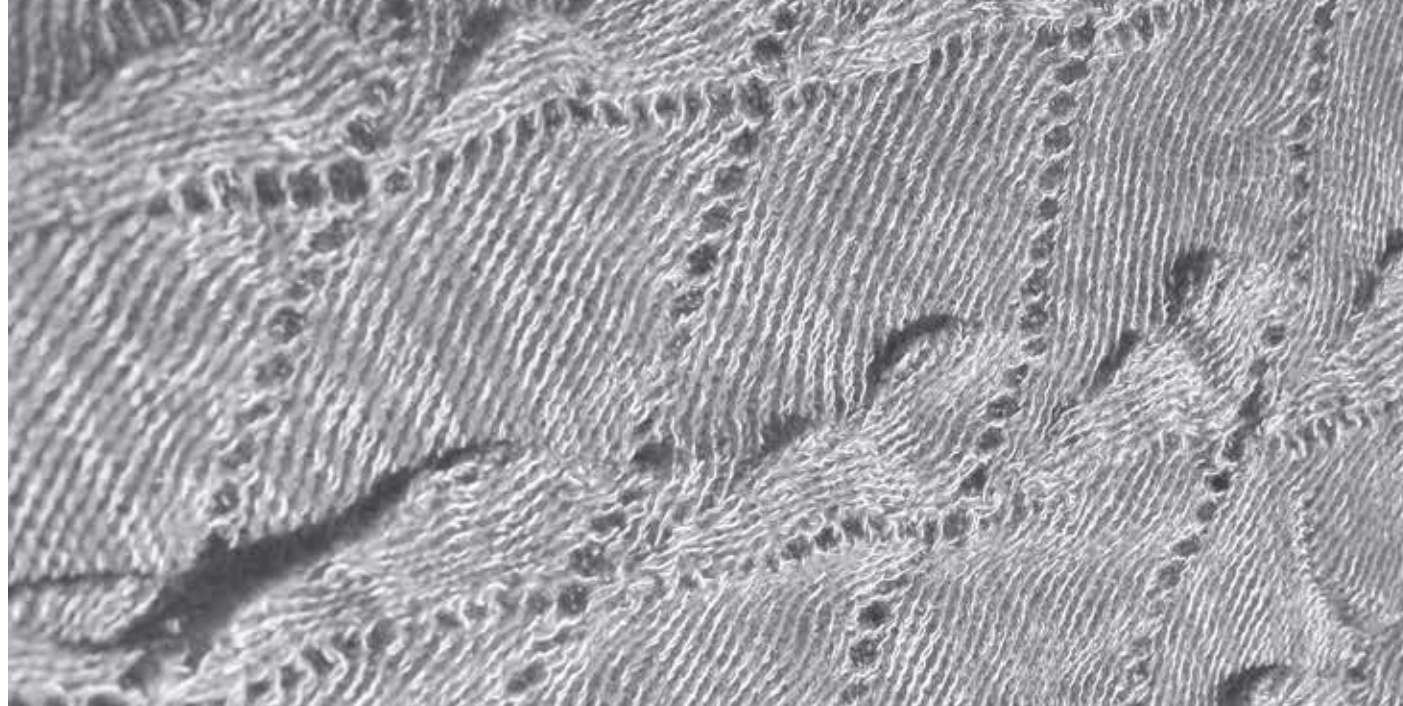
推荐理由: 纱线具有手感柔软、光滑凉爽、透气、抗静电以及高弹保型效果, 成衣后其尺寸稳定性、耐久性、亲肤性均发挥到了极致, 穿着舒适、健康环保更是该纤维制品优点所在。该产品选用再生纤维素纤维生物基长丝作为主要材料, 再配以 PBT 纤维, 通过独特的生产制造工艺, 摒除纤维自身缺点的同时, 将两种差别化纤维的优点充分发挥出来。

适用范围: 高端针织服装, 尤其适用于女性针织时装领域

代表企业: 恒天宝丽丝生物基纤维股份有限公司; 品牌——“博洋”宝莱纱

产学研: 与北京服装学院、华东理工大学共同开展产学研合作; 建立了企业技术研发中心

认证、标准及专利: 获得 ISO9001:2015 质量管理体系认证, 常州市高新技术产品认定证, 拥有专利 ZL 2016 2 1486508.8《倍捻、并丝一体机的单根断纱后自动切断装置》、ZL 2016 2 1486521.3《初捻、并丝合并装置》



指标 Indicator comparison

项目 Item	指标 Indicators
单丝粘涤 PBT 纤维复合密度 Monofilament viscose polyester PBT fiber composite density	120D
单线断裂强力 Single yarn breaking strength	≥ 480N
单线断裂强力变异系数 Coefficient of variation of single yarn breaking strength	优等品 ≤ 3% 合格品 ≤ 5% Superior product ≤ 3% Qualified product ≤ 5%
单线断裂伸长率 Elongation at break of single yarn	优等品 ≥ 22% 合格品 ≥ 18% Superior product ≥ 22% Qualified product ≥ 18%
单线断裂伸长率变异系数 Coefficient of variation of elongation at break of single yarn	优等品 ≤ 4CV 合格品 ≤ 7CV Superior product ≤ 4CV Qualified product ≤ 7CV

Product specification: PBT and regenerated fibers bio-based filament twist; 44 yarns

Keywords: High elasticity and dimension stability

Reasons for recommendation: The yarns are soft, smooth and cool, breathable, antistatic and have high elasticity retention effects. After the garment is finished, its dimensional stability, durability and skin-friendly properties are maximized. Comfortable, healthy and environmentally friendly are the advantages of this fiber products. This product uses regenerated cellulose fiber bio-based filament as the main material, and then combines PBT fiber. Through the unique manufacturing process, the advantages of the two differentiated fibers are brought into full play while the shortcomings of the fiber itself are eliminated.

Scope of application: High-end knitted garments, especially for women's knitted fashion

Representing enterprises: Hi-Tech Polyace Biobased Fiber Co., Ltd.; brand – "Boyang" Baolai Yarn

Industry-university-research: Cooperation with Beijing Institute of Fashion Technology and East China University of Science and Technology to establish industry-university-research cooperation; an enterprise technology research and development center has been established.

Certification, standards and patents: It has obtained ISO9001: 2015 quality management system certification, Changzhou high-tech product certification; patents of ZL 2016 2 1486508.8 "Automatic cutting device after single yarn break of double twist and yarn integration machine", ZL 2016 2 1486521.3 "Initial twist and yarn combination device"



防护用弹力纱

Stretch Yarns for Protection

产品规格: 间位芳纶、氨纶

关键词: 弹力、阻燃

推荐理由: 纱线做出的阻燃防静电面料，能够满足阻燃防静电性能标准要求，舒适性明显提升。

适用范围: 特种防护服装

代表企业: 烟台泰和新材料股份有限公司；品牌——“泰美达”

指标: 阴燃续燃时间 < 2S, 无熔融滴落、耐高温性能优异, 可在 -196°C -204°C 长期使用。

质量认证与产学研: 单位质量管理体系通过 IATF16949\ISO9001\OEKO-TEX 100 认证。拥有国家芳纶工程技术研究中心、省部级以上科技中心、省部级以上工程中心。与东华大学、北京服装学院等国内外高校、科研院所进行技术合作与研究

Product specification: Meta aramid, spandex

Key words: Elasticity, flame retardant

Reasons for recommendation: The flame retardant and antistatic fabric made of yarns can meet the requirements of flame retardant and antistatic performance standards, and the comfort is significantly improved.

Scope of application: Special protective clothing

Representing enterprises: Yantai Tayho New Materials Co., Ltd.; brand – "Tametar"

Indicators: The smoldering afterglow time is less than 2S; there is no melting dripping, and the temperature resistance is excellent. For Long-term use at -196°C to 204°C.

Quality certification and industry-university-research: The unit quality management system has passed IATF16949 certification. It has a national aramid engineering technology research center, provincial and ministerial-level science and technology centers, as well as provincial and ministerial-level engineering centers. Technical cooperation and research have been conducted with Donghua University, Beijing Institute of Fashion Technology, and other domestic and foreign universities and research institutes.

抑菌再生纤维素纤维纱

Antibacterial Regenerated Cellulose Fiber Yarns

产品规格: 50% 优可丝® 安泰贝® 抑菌纤维® /50% 再生纤维素纤维

关键词: 抑菌

推荐理由: 通过注射纺丝技术将活性抑菌物质均匀分散在粘胶短纤表面及内部，对细菌、真菌及病毒等微生物具有抑制作用。纱线强力、疵点及毛羽等指标的性能优越，所制备的面料洗涤 50 次后仍然保持极佳的抑菌效果，衣物保持气味清新。

适用范围: 家居、贴身服饰、户外用品、美容面膜、医用防护品

代表企业: 林茨(南京)粘胶丝线有限公司；品牌——“优可丝® 安泰贝®”

认证、标准和专利: 通过国家 FZ/T 73023-2006 抑菌针织品 (AAA) 标准检测；达到日本 JIS L 1902-2015 的要求；获得国家针织产品质量监督检验中心检测，FZ/T 73023-2006 抑菌针织品标准《GB 31701-2015 婴幼儿及儿童纺织产品安全技术规范 (A 类)》；日本纤维评价技术协会 SEK 标志纤维制品认证基准。

指标 Indicator comparison

	项目 Variety		标准值 Standard value	实测值 Measured value
抗菌性 Bacteria restraint	金黄色葡萄球菌抑菌率 Staphylococcus aureus antibacterial rate	%	≥ 80	96.0
	大肠杆菌抑菌率 Escherichia coli antibacterial rate	%	≥ 70	92.3
	白色念珠菌抑菌率 Candida albicans antibacterial rate	%	≥ 60	87.2

Product specification: 50% EcoCosy® Antaibei® antibacterial fiber® / 50% regenerated cellulose fiber

Keywords: Antibacterial

Reasons for recommendation: The active antibacterial substance is evenly dispersed on the surface and inside of the viscose staple fiber with injection spinning technology, and it has an inhibitory effect on microorganisms such as bacteria, fungi and viruses. The indicators of the yarns such as strength, defects and hairiness are excellent. The fabrics prepared after 50 washings still maintain excellent antibacterial effect, and the clothes keep fresh smell.

Scope of application: Home, intimate apparel, outdoor products, beauty masks, medical protective products

Representing enterprises: Linz (Nanjing) Viscose Yarn Co., Ltd.; brand – EcoCosy® Antibacterial Fibre

Certification, standards and patents: It has passed the national FZ / T 73023-2006 antibacterial knitwear (AAA) standard test; it has reached the requirements of Japanese JIS L 1902-2015; it has passed the test of the national knitted product quality supervision and inspection center and obtained antibacterial knitwear standards "GB 31701-2015 Safety Technical Specification on Textile Products for Infants and Children (Class A)", and SEK Marked Fiber Product Certification Standard of Japan Fiber Evaluation Technology Association.

仿毛色纺纱

Wool-like Colored Spun Yarn

产品规格: 70% 聚酯纤维 (涤纶) 30% 再生纤维素纤维 (粘胶); 32 支

关键词: 抗起毛起球、挺括易打理、色牢度高

推荐理由: 该产品通过紧密赛络纺工艺, 在棉纺设备上将中长纤维纺制的聚酯纤维 (涤纶) 与再生纤维素纤维 (粘胶) 混纺, 生产出高档仿毛纱线, 通过改进工艺, 既可做针织纱, 柔软亲肤, 亦可做机织纱。产品首选环保友好的色母粒[®], 纤维通过色纺纱专业的拼色技术实现了面料百万米无色差的需求。

适用范围: 机织、针织领域, 西服等

代表企业: 汶上如意技术纺织有限公司; 品牌——“天容”

产学研: 与东华大学、西安工程大学、武汉科技学院、北京服装学院以及澳大利亚联邦科学院建立科研合作。是山东省企业技术中心、省部级以上科技中心

认证、标准和专利:

ISO9001、ISO14001 质量管理; GB/T28001-2011; OHSAS18001:2007; 产品参考标准 FZ/T12022-2009《涤纶与粘胶混纺色纺纱》。获得“一种新式 AB 纱及其纺纱方法”、“一种梳棉机盖板斩刀针布包覆装置”等专利

Product specification: 70% PET fibers (polyester) 30% regenerated cellulose fibers (viscose); 32 counts

Keywords: Anti-pilling, crisp and easy care, high color fastness

Reasons for recommendation: The product is blended with PET fibers (polyester) spun by medium length fibers and regenerated cellulose fibers (viscose) on cotton spinning equipment through close siro spinning process to produce high-grade wool-like yarn. By improving the process, it can not only be used as knitting yarn that is soft and skin-friendly, but also weaving yarn. The first choice for the product is the environmentally friendly color master batch[®], and the fiber can meet the needs of no color difference for millions of meters through the professional color matching technology of colored spun yarn.

Scope of application: Fields of weaving and knitting, western-style clothes, etc.

Representing enterprises: Wenshang Ruyi Technology Textile Co.,Ltd ; Brand – “Tianrong”

Industry-university-research: Scientific research cooperation with Donghua University, Xi'an Polytechnic University, Wuhan University of Science and Technology, Beijing Institute of Fashion Technology and Commonwealth Scientific and Industrial Research Organization has been established. It is the Enterprise Technology Center of Shandong Province and the Science and Technology Center at or above the provincial and ministerial level.

Certification, standards and patents: ISO9001, ISO14001 Quality Management; GB/T28001-2011; OHSAS18001:2007; Product Reference Standard FZ/T12022-2009 Blending Colored Spun Yarn of Polyester and Viscose. Patents such as “A New Type of AB Yarn and Its Spinning Method”, “A Covering Device of Cutting Die and Card Clothing for Carding Machine Cover Plate”, etc. has been obtained.



指标 Indicator comparison

主要质量指标与性能 (与常规产品对比)			
Main Quality Index and Performance (Compared with Conventional Product)			
项目 Item	涤粘仿毛色纺纱 Wool-like colored spun yarn	粘胶色纺纱 Conventional regenerated cellulose fibers colored spun yarn	标准要求 Standard requirements
抗起毛气球 (级) Anti-pilling (Level)	4	3	≥ 3
单纱断裂强力变异系数 (%) Variation coefficient of breaking strength of single yarn (%)	6.6	6.85	≤ 8.0
百米质量变异系数 (%) Variation coefficient of 100-meter quality (%)	1.8	1.98	≤ 2.0
条干均匀度 (%) Yarn evenness (%)	11.06	15.05	≤ 16.4
千米棉结 (+200% 粒 /km) 1,000-meter nep (+200% granule /km)	15	28	≤ 100
明显色结 (粒 /100m) Apparent color knot (granule/100m)	1	5	≤ 6



知识补给站 15

色母粒: 是一种新型高分子材料专用着色剂, 亦称颜料制备物。色母粒由颜料或染料、载体和添加剂三种基本要素所组成, 是把超常量的颜料均匀载附于树脂之中而制得的聚集体, 可称颜料浓缩物, 所以它的着色力高于颜料本身。加工时用少量色母粒和未着色树脂掺混, 就可达到设计颜料浓度的着色树脂或制品。

TIPS 15

Color master batch: refers to a new kind of special colorant for high polymer materials, also known as pigment preparation. Color master batch is composed of pigment or three basic elements as dye, carrier and additive. It is a kind of aggregate made by uniformly loading super constant pigment into resin, which can be called pigment concentrate, so its tinctorial strength is higher than pigment itself. During processing, through blending with a small amount of color master batch and uncolored resin, the colored resin or product with the designed pigment concentration can be realized.

仿麻滑爽纯棉纱

Linen-like Smooth Pure Cotton Yarn



产品规格: 100% 棉; JC50 支

关键词: 透气凉爽、细腻飘逸

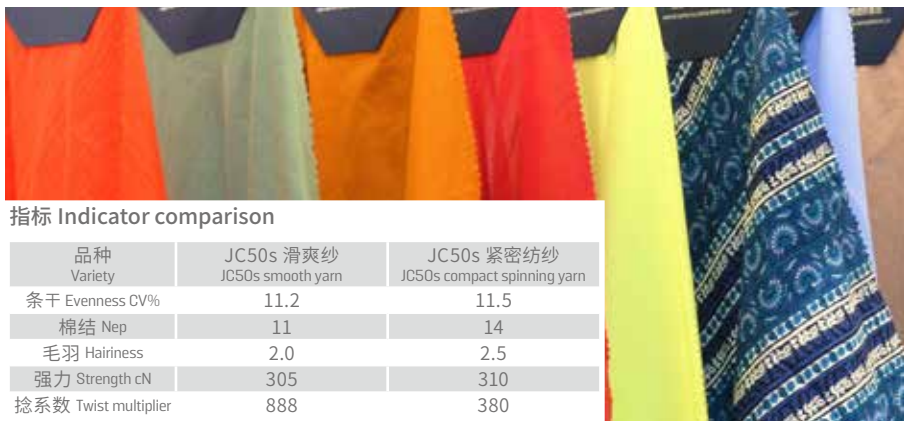
推荐理由: 采用 100% 天然棉纤维生产高支高捻纱线, 复合定捻技术加工成高支高捻纱线。产品具备原棉原有的亲肤柔软性, 同时具备麻织品的滑爽透气风格。消除麻织品手感粗糙、刺痒感, 易起皱起毛的缺陷。

适用范围: 中高端服饰、家居领域

代表企业: 无锡一棉纺织集团有限公司; 品牌——“TALAK”

产学研: 与东华大学、江南大学、哈尔滨工程大学等院校进行合作; 下设纤维新材料应用及新产品研发, 纺织科技情报及新技术、纺织智能制造、纺织绿色生产、中埃纺织技术合作五个研究室

认证、标准及专利: ISO9001 质量体系认证、环保认证等



指标 Indicator comparison

品种 Variety	JC50s 滑爽纱 JC50s smooth yarn	JC50s 紧密纺纱 JC50s compact spinning yarn
条干 Evenness CV%	11.2	11.5
棉结 Nep	11	14
毛羽 Hairiness	2.0	2.5
强力 Strength cN	305	310
捻系数 Twist multiplier	888	380

Product specification: 100% Cotton; JC50 counts

Keywords: Breathable, cool, delicate and elegant

Reasons for recommendation: High count and high twist yarn are produced by 100% natural cotton fiber, with processing of composite twist setting technology. The product has the original skin-friendly softness of raw cotton and the smooth and breathable style of hemp fabric, eliminating the defects of rough hand feeling, itchy sense and easy to wrinkle and fluff of hemp fabric.

Scope of application: Fields of middle and high-end clothing and home furnishings

Representing enterprises: Wuxi No. 1 Cotton Mill Textile Group Co., Ltd.; Brand – “TALAK”

Industry-university-research: cooperation with Donghua University, Jiangnan University, Harbin Engineering University, and other colleges and universities has been conducted; there are five research rooms, namely, fiber new material application and new product research and development, textile science and technology intelligence and new technology, textile intelligent manufacturing, textile green production, and China-Egypt textile technology cooperation

Certification, standard and patent: ISO9001 Quality System Certification, Environmental Protection Certification, etc.

长绒棉高支纱

Long Staple Cotton High Count Yarn

产品规格及成分: 100% 长绒棉; 环锭纺精梳 60-80 支

关键词: 光洁、抗起毛起球

推荐理由: 纱线条干均匀、强力高、毛羽少; 面料纹路清晰、抗起毛起球性好、手感柔软、耐用等。长绒棉高支纱从原料头着手, 摸索与制订含醴棉的使用方法, 配合适宜的温湿度控制, 不断优化各车间工艺参数, 在自络捻结方面通过不断的优化捻结块型号、优化退捻、加捻参数, 使得捻结外观得以改善提高。

适用范围: 高档色织面料及针织面料

代表企业: 河北圣源纺织有限公司; 品牌——“宇彤”

产学研: 与河北科技大学、天津工业大学纺织科学与工程学院签有产学研合作协议。现为河北科技大学纺织服装学院研究生培训基地

指标 Indicator comparison

指标 Index	JC60(100% 细绒棉) JC60(100% Fine staple cotton)	JC60(100% 长绒棉) JC60(100% Long staple cotton)	JC80(100% 细绒棉) JC80(100% Fine staple cotton)	JC80(100% 长绒棉) JC80(100% Long staple cotton)
百米重量偏差 100-meter weight deviation	1.34	1.84	1.25	1.16
重量 CV% Weight CV%	1.5	1.6	1.7	1.5
回潮率 % Moisture regain%	6.5	6.4	6.1	6.3
条干 CV% Evenness CV%	12.31	11.58	13.3	12.53
CVb%	1.8	1.7	2.4	2.3
细节 (-50%) /km Snick (-50%)/km	3	0	11	3
细节 (+50%) /km Snick (+50%)/km	9	3	17	8
棉结 (+140%) /km Nep (+140%)/km	188	55	465	115
棉结 (+200%) /km Nep (+200%)/km	36	13	50	27
毛羽 H 值 Hairiness H value	2.84	2.35	2.65	2.34
捻度 (1/10cm) Twist (1/10cm)	121.6	118.3	142.5	138.6
捻度 CV Twist CV	3.3	3.2	3.5	3.4
单纱强力 cN Single yarn strength cN	187.9	262.7	133.9	188.5
断裂强度 Breaking tenacity cN/tex	20.9	29.3	21.2	27.7
强力 CV% Strength CV%	7.3	7.1	10	8.5
最大强力 cN Maximum strength cN	220.3	302	166.9	224.2
最小强力 cN Minimum strength cN	153.5	215.5	108.1	151.8
断裂伸长率 % Elongation at break %	5.63	5.75	4.71	5.63
伸长 CV% Elongation %	9.2	7.45	10.74	8.24



Product specification and ingredients: 60-80 counts of ring spinning combed; 100% long staple cotton

Keywords: Bright and clean, anti-pilling

Reasons for recommendation: The yarns are of evenness, high strength and less hairiness; the fabric has clear texture, good anti-pilling nature, with soft hand feeling and durability. Starting from the raw material, the long staple cotton high count yarn explores and formulates the use method of sugar containing cotton, and cooperates with the appropriate temperature and humidity control to constantly optimize the process parameters of each workshop. In the aspect of self-winding twist knot, the appearance of twist knot can be improved by continuously optimizing the type of twist knot block, optimizing the parameters of untwisting and twisting.

Scope of application: High-grade yarn-dyed fabrics and knitted fabrics

Representing enterprises: Hebei Shengyuan Textile Dye & Print Co., Ltd.; Brand - "Yutong"

Industry-university-research: with industry-university-research cooperative agreements with Hebei University of Science and Technology and TianGong University—School of Textile Science and Engineering. It is the current postgraduate training base of Hebei University of Science and Technology—College of Textile and Garment.



涡流纺再生纤维素纤维纱

Vortex Spinning Regenerated Cellulose Fiber Yarns

产品规格: 100% 细旦再生纤维素纤维(粘胶) (1.0tex*38mm) 纤维; 80 支

关键词: 耐磨、透气舒适

推荐理由: 纱线以细旦再生纤维素纤维为原料, 采用涡流纺纱技术, 纺出的纱线具有良好的吸湿性, 符合人体皮肤的需求, 还具有光滑凉爽、透气、抗静电、防紫外线、色彩绚丽、染色牢度好的特点。其织出的布料具有耐磨性高、耐洗涤、抗起球等特性。

适用范围: 服装面料、家纺面料、产业用织物产品

代表企业: 吴江京奕特种纤维有限公司

产学研: 与江南大学、兰精公司、苏州新东南纺织公司开展合作; 拥有吴江京奕特种纤维技术中心、省部级以上科技中心

认证、标准及专利: 获 ISO4001 环境管理体系, ISO9001 质量管理体系认证; 获得涡流纺混纺纱生产工艺 (ZL 2015 1 0440589.1) 等三项发明专利; 一种涡流纺纱线用收卷装置 (ZL 2017 2 1512873.6) 等多项实用新型专利



指标 Indicator comparison

项目名称 Project Name	单位 Unit	指标 Index
线密度偏差率 D Deviation rate of linear density	%	0.7
线密度变异系数 Coefficient of variation of linear density	%	0.8
单纱断裂强度 Single yarn fracture strength	cN/tex	13.8
单纱强力变异系数 Coefficient of variation of single yarn strength	%	9.9
条干均匀度变异系数 CVm Coefficient of variation of evenness	%	16.3
千米棉结 Ncps/Km(+200%) 1,000-meter nep(+200%)/km	个 /Km PC/Km	118
千米细节 Thin/Km(-50%) 1,000-meter snick (-50%)/km	个 /Km PC/Km	106
千米粗节 Thick/Km(+50%) 1,000-meter nub (+50%)/km	个 /Km PC/Km	152
毛羽值 H Hairiness value H		2.75
单纱断裂伸长 Single yarn breaking elongation	%	6.8
耐磨性 Wear resistance	分 Min	18
回潮率 Moisture regain	%	11.3



Product specification: 100% Fine denier regenerated cellulose fibers (viscose) (1.0tex*38mm) fibers; 80 counts

Key words: Durable, breathable and comfortable

Reasons for recommendation: Taking fine denier regenerated cellulose fibers as raw materials, the vortex spinning technology is adopted for the yarn. The spun yarn has good moisture absorption, meets the needs of human skin, with the characteristics of smooth, cool, breathable, antistatic, UV resistant, gorgeous color and good color fastness. The spun fabric has the characteristics of high wear resistance, washing resistance and pilling resistance.

Scope of application: Clothing fabric, home textile fabric, industrial fabric products

Representing enterprises: Wujiang Jingyi Special Fiber Co., Ltd.

Industry-university-research: Cooperation with Jiangnan University, Lenzing, and Suzhou Xindongnan Textile Technology Co., Ltd. has been carried out; it possesses Wujiang Jingyi Special Fiber Technology Center and Science and Technology Centers at or above provincial and ministerial level

Certification, standards and patents: Certifications of National ISO911 Quality System, ISO4001 Environmental Management System, ISO9001 Quality Management System have been obtained; three patents for invention such as Vortex Spinning Blended Yarn Production Process (ZL 2015 1 0440589.1); and various utility model patents such as A Wrap-up Device for Vortex Spinning Yarn (ZL 2017 2 1512873.6) have been obtained.

高支细旦再生纤维素纤维纱

High Count Fine Denier Regenerated Cellulose Fiber Yarn

产品规格及成分: 100% 超细旦再生纤维素纤维(粘胶纤维) (1.0dtex*38mm); 100支/120支

关键词: 细腻亲肤、光洁挺括

推荐理由: 原料选自天然绿色纤维, 原料生物质、生产过程绿色环保、废弃物可完全降解回归自然, 适纺性好, 在高支纱方面其成纱的条干、强力、毛羽等指标更佳。采用其生产的包芯纱, 毛羽较少, 质量可媲美紧密赛络纺产品, 织造效率较高。

适用范围: 适用于针织、梭织、经编和各种混纺织物用纱

代表企业: 福建新华源纺织集团有限公司; 品牌——“Sadaer”

产学研: 新华源与辽东学院联合成立“新材料纺织应用研究院”; 拥有省级技术中心

认证、标准及专利: ISO9001-2000 国际质量管理体系认证, 参照执行标准 FZ/T12003-2014《粘胶纤维本色纱线》

指标 Indicator comparison

Sadaer 系列赛络紧密纺检验报告 Inspection Report on Sadaer Series Tight Siro Spinning		
检验项目 Items for inspection	Sadaer 100S 赛络紧密纺 Sadaer 100S Siro compact spinning	Sadaer 120S 赛络紧密纺 Sadaer 120S Siro compact spinning
单纱强力变异系数 (CV%) Coefficient of variation of single yarn strength (CV%)	9.4	10.3
单纱强力 (cN) Single yarn strength (cN)	89.3	74.4
单纱断裂强度 (cN/tex) Single yarn breaking strength (cN/tex)	15.3	15.2
重量偏差 (%) Weight deviation (%)	+0.4	+0.6
条干均匀变异系数 (CV%) Coefficient of variation of evenness (CV%)	12.60	13.8
千米细节 (-50%) 1,000-meter snick (-50%)	3	10
千米粗节 (+50%) 1,000-meter Nub (+50%)	27	28
千米棉结 (+200%) 1,000-meter Nep (+200%)	78	68

Product specification: 100% Super fine denier regenerated cellulose fibers (viscose fibers) (1.0dtex*38mm); 100 Counts/120 Counts

Key words: Fine and skin-friendly, bright and clean and crisp

Reasons for recommendation: Raw materials are selected from natural green fibers. Raw material biomass and production process is green and environmentally friendly, and waste can be completely degraded back to nature, with good spinnability, and better indicators of its yarn evenness, strength, hairiness, etc. in terms of high-count yarn.

Scope of application: Suitable for knitting, tatting, warp knitting and various blended fabric yarns

Representing enterprises: Fujian Xinhuyuan Textile Group Co., Ltd.; Brand – “Sadaer”

Industry-university-research: Xinhuyuan and Eastern Liaoning University jointly found the “New Material Textile Application Research Institute”; it has a provincial technology center

Certification, standard and patent: ISO9001-2000 International Quality Management System Certification, implementation by reference to FZ/T12003-2014 Viscose Fiber Natural Color Yarn



莱赛尔短纤纱

Lyocell Staple Fiber Yarn

产品规格: 莱赛尔 / 精梳棉 50/50; 32 支 /40 支

关键词: 强度高、吸湿透气、柔软光洁

推荐理由: 纱线以莱赛尔纤维为原料再进行纺丝生产, 其过程无有害物质排放, 对环境无污染, 纺丝溶剂回收率可达 99.5%。本系列产品在紧密纺细纱机上喂入两根保持一定间距的粗纱, 发挥赛络纺和紧密纺的技术优势, 提升细纱纺制品质, 单纱强度高, 结构紧密, 耐磨性好, 有害毛羽极少, 纱线光洁。

适用范围: 高档针织纺织品和色织布

代表企业: 福建长源纺织有限公司; 品牌——“皓光”

产学研: 与中国纺织科学研究院合作开展新溶剂法莱赛尔纤维的研发和技术应用, 是省部级以上工程中心、福建省企业技术中心、福建省级工程技术研究中心

认证、标准及专利: 获 ISO14001; OHSAS18001 认证; 主要依据 FZ/T 12013-2014 莱赛尔纤维本色纱线标准生产; 拥有实用新型专利: 螺旋气流紧密纺生产装置 (ZL 2017 2 0213978.5)

指标 Indicator comparison

项目 Item	单位 Unit	紧赛莱赛尔 (100%) 纱 40s Compact Lyocell (100%) yarn 40s	紧赛精梳棉 50/ 莱赛尔 50 混纺 纱 32s Compact combed cotton 50 / Lyocell 50 blended yarn 32s	紧赛精梳棉 70/ 莱赛尔 30 混纺 纱 40s Compact combed cotton 70 / Lyocell 30 blended yarn 40s	紧赛精梳棉 70/ 莱赛尔 30 混纺 纱 32s Compact combed cotton 70 / Lyocell 30 blended yarn 32s
单纱断裂强度 Single yarn breaking strength	cN/tex	24.1	20.1	18.7	18.9
单纱断裂强力变异系数 Coefficient of variation of single yarn breaking strength	%	6.1	6.2	6.1	6
条干均匀度变异系数 Coefficient of variation of evenness	%	11	10.1	11.5	10.5
线密度偏差率 Linear density Deviation rate	%	-1.4	-0.5	0.7	1.1
毛羽指数 Hairiness index	根 /m one/m	5.02	3.88	3.96	4.77
捻度 Twist	捻 /m Twist/m	893	769	927	803

Product specification: Lyocell / Combed Cotton 50/50; 32 counts /40 counts

Key words: High strength, moisture absorption and air permeability, soft and bright and clean

Reasons for recommendation: The yarn is made of Lyocell fiber as the raw material for spinning production, there are no harmful substances and no pollution to the environment during the process, and the recovery rate of spinning solvent can reach 99.5%. The series of products feeds two roving with a certain distance on the compact spinning frame, which takes advantage of the technical advantages of siro spinning and compact spinning to improve the spinning quality of single yarn to be of high strength, compact structure, good abrasion resistance and rare harmful hairiness, being bright and clean.

Scope of application: High-grade knitted textiles and yarn-dyed fabrics

Representing enterprises: Fujian Changyuan Textile Co., Ltd.; Brand – "Haoguang" and "Changyuan"

Industry-university-research: It cooperates with China Textile Academy in the R&D and technical application of new solvent Lyocel fiber. It is an engineering technology center at or above the provincial level, a Fujian Provincial Enterprise Technology Center, and a Fujian Provincial Engineering Technology Research Center

Certification, standards and patents: Obtain ISO9001; ISO14001; OHSAS18001 Certification; it is mainly produced according to the standard FZ/T 12013-2014 Lyocell fiber natural yarn, and has utility model patent: Spiral Air Tight Spinning Production Device (ZL 2017 2 0213978.5)

竹纤维混纺弹力纺纱

Bamboo Fiber Blended Stretch Yarn

产品规格: 50% 竹纤维 / 20% 聚酯纤维 (涤纶) / 30% 生物质聚酯纤维 (涤纶); 50 支

关键词: 高弹、挺括

推荐理由: 纱线具有高弹性、回复性佳; 纱线纺制的面料纹路清晰, 布面平整不易起皱, 手感柔软而挺括, 制成的成衣舒适贴服, 衣着关键部位 (如肘部、臀部、膝盖) 不易起包变形, 且常温染色, 自然环保, 亲肤性好, 实现可持续发展。

适用范围: 春夏衬衣

代表企业: 无锡四棉纺织有限公司; 品牌——“球鹤”

产学研: 与江南大学、香港理工大学有合作科研项目

指标 Indicator comparison

项目 Item	单位 Unit	测试值 Test value
缕纱重量变异系数 Coefficient of variation of yarn weight	CV%	1.2
极差 Deviation of yarn weight	%	4.5
缕纱重量偏差 Lyo	%	1.1
单纱 (线) 断裂强度 Single yarn (line) breaking strength	cN/tex	18.7
最低强力 Minimum strength	cN	172.8
断裂伸长 Breaking elongation	%	11.5
单纱 (线) 断强变异系数 Coefficient of variation of single yarn (line) breaking strength	CV%	10.6
条干变异系数 Coefficient of variation of evenness	CV%	10.3
条干各管间变异系数 Coefficient of variation of evenness tubes	CVb%	4.09
千米细节 -50% 1,000-meter snick(-50%)	个 / 千 Piece / km	0
千米细节 +50% 1,000-meter snick(+50%)	个 / 千 Piece / km	5
千米棉结 +200% 1,000-meter nep (+200%)	个 / 千 Piece / km	28
千米棉结 +140% 1,000-meter nep (+140%)	个 / 千 Piece / km	125
毛羽 H Hairiness H		251
毛羽 Hairiness	个 (2mm) Piece (2mm)	30

Product specification: 50 counts of 50% bamboo fiber 20% PET fiber (polyester) 30% biomass PET fiber (polyester)

Key words: High-elastic and crisp

Reasons for recommendation: The yarn has high elasticity and good recovery; the fabric spun by the yarn is clear in texture, the surface of the fabric is flat and not easy to wrinkle, and the hand feeling is soft and crisp. The finished garment is comfortable and fit, and key parts of the clothing (such as elbows, hips, and knees) are not easy to pack and deform, and it is dyed at room temperature, being natural and environmentally friendly, with good skin-friendly nature. The sustainable development has been realized.

Scope of application: Spring and summer shirts

Representing enterprises: Wuxi Simian Textile Co., Ltd.; Brand – "Qiuhe"

Industry-university-research: with cooperative scientific research projects with Jiangnan University and Hong Kong Polytechnic University.

绵柔弹性聚酯纤维纱

Soft and Elastic PET Fiber Yarn

产品规格: 聚酯纤维 (涤纶) 195dtex/288F (DTY 氨纶包覆丝)

关键词: 弹力优、柔软细腻

推荐理由: 纱线所制备的布料具有良好的弹力效果, 且布面丰满、手感柔软细腻、色泽柔和、牢度大, 抗皱性好, 有较强悬垂性。

适用范围: 与棉纱交织的高档牛仔布、运动登山服、休闲衫、弹性花边布

代表企业: 桐昆集团浙江恒盛化纤有限公司

产学研: 国家企业技术中心, 省级企业研究院、国家认可实验室等; 与浙江理工大学建立合作关系

认证、标准及专利: 通过 ISO9001、ISO14001 认证; 按照标准 FZ/T12040-2013《涤纶 (锦纶) / 氨纶包覆丝》生产; 拥有《一种传动计量控制系统降低纤度偏差的方法 - 专利》实用新型专利 (申请号: 2180824039.3)

指标 Indicator comparison

项目 Item	实测值 Measured value
线密度偏差率 (%) Deviation rate of linear density (%)	0
线密度变异系数 CV 值 (%) CV value of linear density variation coefficient (%)	0.05
断裂强度 (cN/dtex) Breaking strength (%)	3.4
断裂强度变异系数 CV 值 (%) CV value of breaking strength variation coefficient (%)	2.78
断裂伸长率 (%) Elongation at break (%)	19.8
断裂伸长率变异系数 CV 值 (%) CV value of elongation at break variation coefficient (%)	9.25
沸水收缩率 (%) Boiling water shrinkage (%)	3.5
含油率 (%) Oil content (%)	4.52
网络度 / (个 / M) Degree of network (piece/M)	130

Product specification: PET Fibers (Polyester) 195dtex/288F (DTY Covered Spandex)

Key words: Excellent elasticity, being soft and delicate

Reasons for recommendation: The fabric prepared by the yarn has good elastic effect, and the cloth is full, the hand feeling is soft and delicate, with soft color, strong fastness, good wrinkle resistance and strong drapability.

Scope of application: High-grade denim interwoven with cotton yarn, sports mountaineering suit, leisure shirt, elastic lace cloth

Representing enterprises: Tongkun Group Zhejiang Hengsheng Chemical Fiber Co., Ltd.

Industry-university-research: National Enterprise Technology Center, Provincial Enterprise Research Institute, National Accreditation Laboratory, etc.; establish cooperation with Zhejiang Sci-Tech University.

Certification, standards and patents: Obtain ISO9001, ISO14001 Certification; it is produced in accordance with the standard FZ/T2040-213 Polyester (Nylon) / Covered Spandex, and has the utility model patent (Application No.: 218082409.3) of A Method for Reducing Denier Deviation of Transmission Metering Control System – Patent