

王乐军

报告人简介:

王乐军，现任恒天纤维集团总工程师，恒天长江生物材料有限公司、恒天生物基材料工程技术（宁波）有限公司董事长，曾任恒天海龙公司副总工程师、国家级企业技术中心副主任。长期致力于再生纤维素纤维新工艺及差别化功能化再生纤维素纤维的研究与开发，主持或参与完成国家“863”计划、国家“火炬计划”项目、国家“十二五”科技计划等国家重点项目 10 项、省技术创新计划 35 项；主持和参加制定国家、行业标准 20 多个，授权国家发明专利 23 项，省部级科技进步奖 5 项，在国家核心期刊上发表学术论文 12 篇；参加完成的项目获得中国纺织工业协会科技进步一等奖、山东省科技进步一等奖和山东省技术发明一等奖等多项奖励。被提名为国家科技奖评审专家，荣获国家化纤工业行业贡献奖、潍坊市“优秀青年知识分子”等荣誉；“生产阻燃抗熔融纤维的工艺方法”荣获中国专利优秀奖。《纤维素丙酸酯-g-二乙二醇正十六烷基醚固-固相变材料的制备及性能》荣获第十五届陈维稷优秀论文奖；2014 年荣获第四届山东省优秀发明人；《聚乳酸纤维及市场前景》荣获 2015 年“中国化学纤维工业协会·恒逸基金”优秀论文奖。



Lejun Wang

Profile of the Author:

Lejun Wang, who is the chief engineer of Hi-Tech Fiber Group Corporation, chairman of Ecospire CHTC Co., Ltd and CHTC bio-based materials engineering and technology (Ningbo) Co., Ltd, commitments to new technology of regenerated cellulose fiber and differential functionalization of regenerated cellulose fiber research and development for long-term. He has taken charged of or participated in more than 10 key national "863" projects, "Torch Plan" projects, and "Twelfth Five-year Plan" projects. He presided over and participated in the formulation of more than 20 national and industrial standards, owned 23 authorized national invention patents, and won 5

provincial and ministerial science and technology progress awards. The projects he took part in have won the first prize of science and technology progress of China textile industry association, the first prize of science and technology progress of Shandong province and the first prize of technology invention of Shandong province. In 2014, he was awarded the fourth excellent inventor of Shandong province. His paper "PLA fiber and its market prospect" won the 2015 excellent paper award of "China chemical fiber industry association Hengyi fund".

连续聚合-熔体直纺聚乳酸纤维的产业化及市场应用开发

摘要：恒天纤维集团控股公司恒天长江生物材料有限公司先后开发了“一步法聚乳酸纺丝工艺与技术”，“连续聚合熔体直纺聚乳酸纤维研发与产业化”，目前已完成年产 10000 吨丙交酯开环聚合制备聚乳酸生产线 1 条，可进行单组份聚乳酸纤维和高熔点/低熔点双组份聚乳酸纤维的切换生产。同时建成了熔体直纺高熔点/低熔点双组份聚乳酸短纤生产线 1 条，并已开展聚乳酸短纤维非织造布的产业化技术研究和中试示范线建设。公司产品涵盖各种规格聚乳酸长丝、短丝、无纺布产品，差别化聚乳酸纤维，如双组份纤维、三维立体纤维等，是全球最宽泛的聚乳酸纤维和无纺布供应商，也是目前全球采用熔体直纺专利技术生产聚乳酸纤维的唯一制造商。同时，针对聚乳酸应用中出现的问题，恒天生物基材料工程中心开发了阻燃聚乳酸纤维、发热保暖聚乳酸纤维、相变调温聚乳酸纤维、弹性聚乳酸纤维以及细旦聚乳酸纤维球等功能化产品，满足不同领域的应用需求。

The Industrialization and Market Application of Continuous Polymerization-melt Direct Spinning PLA Fiber

Abstract: As a subsidiary of Hi-Tech Fiber Group Corporation, Ecospire CHTC Co., Ltd has developed the techniques "one-step spinning poly (lactic acid) (PLA) process

and technology", "research and industrialization of continuous polymerization-melt direct spinning PLA fiber ". At present, the production line of PLA with the annual production capacity of 10000 tons has been completed by using the lactide ring-opening polymerization. The switching production of single component PLA fiber and high melting point/low melting point double component PLA fiber can be carried out. At the same time, a melt direct spinning PLA staple fiber production line has been established, and industrial technology research and pilot line construction of PLA non-woven fabric have been carried out.

Hi-Tech Fiber Group Corporation is the world's most broad PLA fiber and non-woven fabric suppliers so far, and is the only manufacturer in the world that uses the patented technology of melt direct spinning to produce PLA fiber. Company's products cover all kinds of PLA fibers, include the filament, staple, non-woven fabric, differential fibers such as bi-component fiber, three dimensional fiber and so on. At the same time, in view of the problems arising from the application of PLA, CHTC bio-based materials engineering and technology center developed a series functional PLA fibers such as the flame retardant fiber, self-heating fiber, phase transition temperature regulation PLA fiber, elastic fiber and fine fiber ball and other functional products to meet the demands of different areas of application.