

扭妥™ 環錠紡紗技術 Nu-Torque™ Singles Ring Yarn Technology

獨特創新的低扭矩、高強力單紗科技

Major breakthrough in yarn manufacturing with low torque and high strength

專利申請編號及國家：6,860,095 B2 (美國), 7,096,655 B2 (美國), 7,219,556 B2 (美國), ZL 02118588.3 (中國)

特色與優點

- 採用比環錠紡正常撚度低25-40%的水準紡制7~60Ne紗
- 具有傳統環錠紡紗技術不具備的獨特產品特徵：
 - 單紗殘餘扭矩小
 - 低撚度，高單紗強力
 - 棉針織毛衫歪扭小
 - 具獨特的羊絨般手感
- 比環錠紗產量提高約25-40%
- 具有顯著的省電節能優勢，每1萬噸紗可省電337萬千瓦時
- 綠色環保生產技術，無廢水，廢汽排放

應用

- 目前已形成8萬錠的生產規模，且有包括中國大陸、香港、台灣、泰國、澳洲在內的7家公司，總共超過50萬錠正在安裝
- 扭妥™ 紗線及其針織物和服裝產品等已遠銷歐美及日本市場。產品已進入高檔、高增值市場，從2005年7月至2010年1月，合計產品市場值54億港幣以上

獎項

「紡織之光」2009年度中國紡織工業協會科學技術一等獎

扭妥™ 紡紗技術的優勢 Nu-Torque™ Technology VS Existing Technologies



Patent Application No.: 6,860,095 B2 (US), 7,096,655 B2 (US), 7,219,556 B2 (US), ZL 02118588.3 (China)

Special Features and Advantages

- Production of yarns with a linear density of 7~60Ne using twist lower than normal twist by 25~40%
- Unique characteristics:
 - Very low yarn residual torque
 - Very low yarn twist but high yarn strength
 - Very low spirality angles of knitted fabrics
 - Cashmere-like soft handle
- 25-40% increment of spinning productivity compared to conventional yarn
- Electric energy saving for spinning alone is 3.37million kWh per 10k tones of yarns
- No chemical, no water and steam

Applications

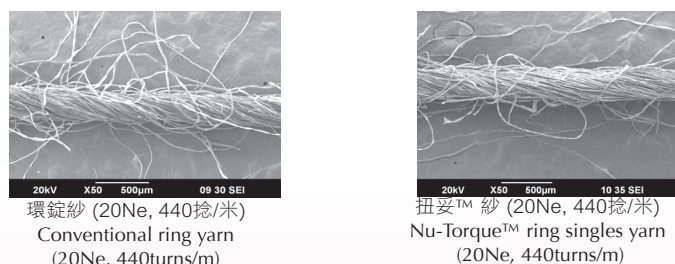
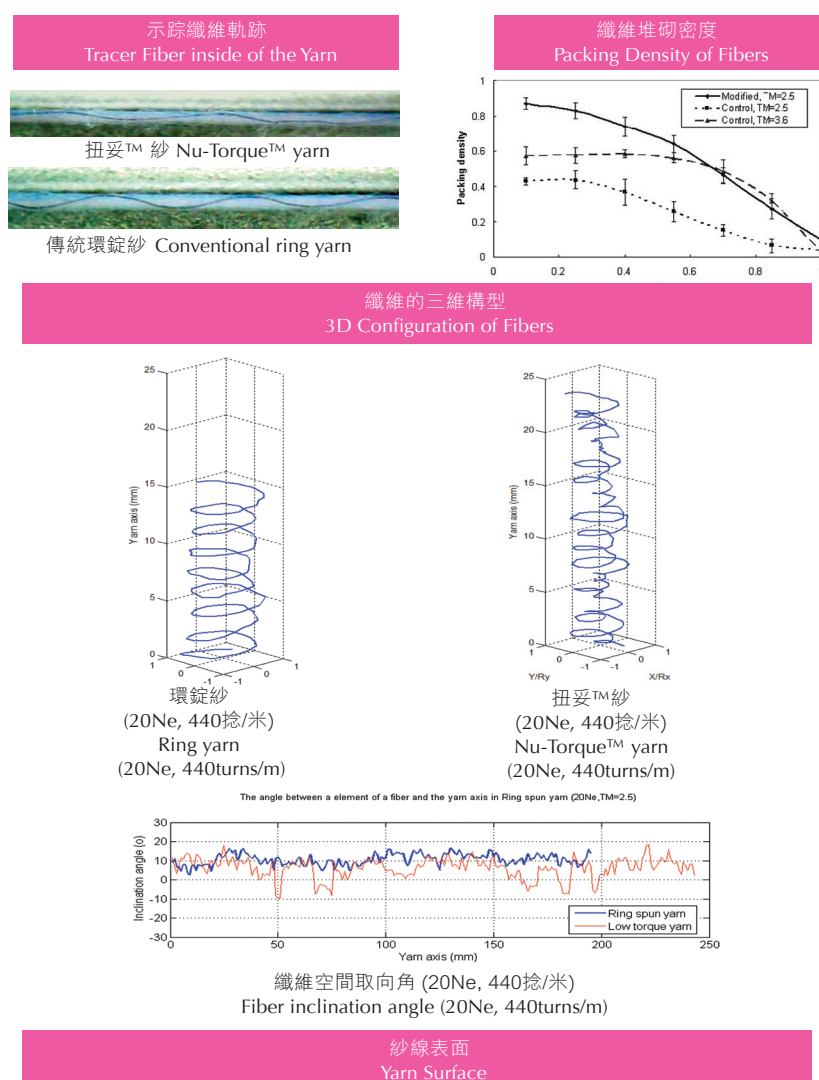
- 80,000 Nu-Torque™ spinning unites have been in production, 500,000 more are being installed by 7 companies in Mainland Chinese, Hong Kong, Taiwan, Thailand and Australia
- From July 2005 to January 2010, the Nu-Torque™ yarns and textile products have been sold worldwide with total values over HKD5.4 billion. Products have entered the high quality and added-value market worldwide

Award

2009 China National Textile and Apparel Council Science and Technology Award (First Class).

扭妥™ 紡紗技術在紗線生產原理上取得重大突破，通過研發短纖紗假撚裝置，獨創新型結構的低扭矩紗，賦予紗線低殘餘扭矩和低撚高強等優良性能。扭妥™ 紡紗技術的研發實現了紗線在超低撚度條件下的規模化、工業化生產，提高生產力，並顯著節省能耗。環錠細紗機上加裝的紡紗附件裝置改變了紡紗三角區的纖維張力及其分佈，從而改變纖維在紗中的排列分佈與殘餘應力，使紗中部分纖維殘餘扭矩相互平衡和殘餘應力降低。實現超低撚度條件下，低扭矩、高強力單紗的生產。

紗線結構 Yarn Structure



Nu-Torque™ technology is a major breakthrough in yarn manufacturing, which provides the means to produce a singles ring yarn with zero or low residual torque and high strength. This development leads to a substantial increase in yarn productivity, distinct quality improvements of textiles and garments, as well as significant energy saving in production. By incorporating the Nu-Torque™ device into a ring frame, the change of the fiber tension and its distribution in the spinning triangle alter the arrangement of fibers and their residual torque in the yarn, so the reduction and balance of residual torque between fibers can be achieved.

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