

References

1. Ju Yun M, et al. Insertion of Dye-Sensitized Solar Cells in Textiles using a Conventional Weaving Process. *Sci. Rep* 2015. 5: 11022; DOI: 10.1038/srep11022.
2. Xing M. (2002). Discussion on integrated composite spinning technology. *Shanghai Textile Science & Technology*, 30(3): 15-16.
3. Luo J. (2008). Determination of core-spun degree of nylon 6/spandex mechanical core-spun yarns. *Melliand China*, 01: 26-28.
4. Cheung C W, and Cheng K P S. Woollen wrapped yarn properties. *Textile Asia*. 1994; 11: 52-57.
5. Kannan T G, Wu C M, Cheng K B. Effect of different knitted structure on the mechanical properties and damage behavior of Flax/PLA (Poly Lactic acid) double covered uncommingled yarn composites. *Composites Part B: Engineering* 2012; 43(7): 2836-2842.
6. Svensson N, Shishoo R and Gilchrist M. Manufacturing of thermoplastic composites from commingled yarns-A review. *Journal of Thermoplastic Composite Materials* 1998; 11(1), 22-56.
7. Cheng Y, Wang R, Sun J and Gao L. Highly conductive and ultrastretchable electric circuits from covered yarns and silver nanowires. *ACS nano*, 2015; 9(4), 3887-3895.
8. Lin C W and Lin J H. Manufacture and application of high-performance geogrids with PP/PET composite covered yarn. *Textile Research Journal* 2005; 75(6), 453-457.
9. Grabowska KE, Vasile S, Van Langenhove L, Ciesielska I and Barbarski M The influence of component yarns' characteristics and ring twisting frame settings on the structure and properties of spiral, loop and bunch yarns. *Fibres and Textiles in Eastern Europe* 2006;14, 3(57): 38-41.
10. Audivert R. Advantages of staple-fibre yarns covered with a continuous-filament. *Textile Institute & Industry* 1974; (9): 271-272.
11. Audivert R and Fortuny E. Filament-reinforced differential twist yarn-comparison with ordinary and covered waste yarns. *Textile Institute and Industry* 1979; 17(8): 286-287.
12. Maag F and Unger F. *U.S. Patent No. 4,164,837*. Washington, DC: U.S. Patent and Trademark Office, 1979.
13. Babaarslan O. Method of producing a polyester/viscose core-spun yarn containing spandex Using a Modified Ring Spinning Frame. *Textile Research Journal*, 2001; 71(4): 367-371.
14. Anonymous. Menegatto introduces covering machines. *Textile World*, 2005; 155(9), 49.
15. Tomashini E. Covering and twisting machines for the production of elastic yarns. *Chemical Fibers International* 1999; 3: 49.
16. Tomasini E. Menegatto equipment at ITMA 91- The covering machine 2000. *Nuova Selezione Tessile*, 1991; 9(10): 48-50.
17. Northup, F. B., & Hart, D. R. *U.S. Patent No. 4,232,507*. Washington, DC: U.S. Patent and Trademark Office, 1980.

18. Zhang H, Sun G and Xing M. Study on the wrap spinning process and technology. *Shandong Textile Science & Technology* 2012, 4, 1-3.
19. Grabowska KE. Comparative analysis of fancy yarns produced on a ring twisting system. *Fibres and Textiles in Eastern Europe* 2010;18,1(78): 36-40.
20. Vasile S, Grabowska KE, Ciesielska IL and Githaiga J. Analysis of hybrid woven fabrics with shape memory alloys wires embedded. *Fibres and Textiles in Eastern Europe* 2010;18, 1(78): 64-69.
21. Grabowska KE and Ciesielska-Wróbel I. Characteristics and Application of Knop Fancy Yarns. *Fibres and Textiles in Eastern Europe* 2015; 23, 1(109): 17-25.
22. Caban J C. A new spinning process for worsted yarns. *Textile Research Journal* 1979; 49(3): 146-150.
23. Yuan Y. The development prospect of wrapped yarn produced by hollow spindle and fancy yarns. *Products & Technology Abroad* 1990; (3): 28-30.
24. Ma X, Zhang Y and Xing M. Present situation and development trend of covering spinning technology. *China Textile Leader*; 2005, (10): 141.
25. Weisser H and Czapay M. Production of yarns and ply-yarns by the wrap spinning process and use of this process in spinning and doubling. *Melliand Textilberichte International Textile Reports* 1983, 64(9): 623-627.
26. Li X. *Study on the structure and performance of wool-polyester long staple fiber twisting wrapped yarn*. Textile Institute of Qingdao University, Qingdao, 2001
27. Wang J, Sun Z, Ji Y. *The production and application of spandex stretch yarn: The spandex elastic yarn and elastic yarn*. Beijing: Textile Industry Press; 1986.
28. Fraser W B, Clark J D, Ghosh T K and Zeng Q. The effect of a control ring on the stability of the ring-spinning balloon. *In Proceedings of the Royal Society A-Mathematical Physical and Engineering Sciences* 1996; 452(1944): 47-62.
29. Fraser W B, Farnell L and Stump D M. The effect of a slub on the stability of the ring-spinning balloon. *Journal of the Textile Institute* 1995; 86(4): 610-634.
30. Miao M, How Y L and Cheng K P S. The role of false twist in wrap spinning. *Textile Research Journal* 1994; 64(1): 41-48.
31. Petrulius D and Petrulyte S. Effect of manufacturing parameters of covered yarns on the geometry of covering components. *Textile Research Journal* 2009; 79(6): 526-533.
32. Li X, Zhang J and Li J. Differential-twist wrapped yarns made on a hollow spindle spinning machine. *Textile Research Journal* 2002; 72(2): 181-185.