Recycling textile cotton and wool waste for producing different counting of yarns

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Abstract:
The current study aims at benefiting from the exhausts of the cotton and woolen fabrics produced by the garment industry and recycling them to produce three kinds of yarns: polyesters and cotton - wool / polyesterester yarns, by open-ended spinning. High tolerance multi-purpose specifications and functional characteristics suitable for use in many areas, namely 50% cotton cloth clippings: 50% polyester yarn 9/1-8/1 - 20% cotton yarn exhaust cotton cloth cuttings: 80% polyester yarn 8/1 and 33% cotton cloth clips by percentages 33% wool and 33% of raw polyesters with two different levers 6.5/1, 8/1 and knowledge of the properties of yarns produced from the exhaust residues Textile scraps resulting from the manufacture of clothing using a 20/1 for warp yarns cotton thread and using open-loop yarn machines. The laboratory on yarns produced by the lab of one of the largest textile companies in Mahalla El Kobra according to the laboratory specifications and standards of the tested properties. The threading test - tensile strength -% of the elongation - durability. The study aims to: 1. Production of different tiger threads resulting from the recycling of textile residues after the manufacture of multifunctional clothing. 2 - Production of exhaust yarns for the remnants of fabrics achieved functional performance of mixed-use fabrics. 3 - Improving the properties of producing threads by conducting some thread tests to determine their suitability for use. 4 - Know the best stages and manufacturing processes to improve the properties of threads produced with the best mixes and tiger. Research Methodology: Based on its nature, this research depends on the empirical approach to its dependence on observation, hypothesis, and experimentation. Practical experiments: First: Production of threads: Tiger yarns 6.5 / 1, 8/1, and 9/1 were produced by Open - End Spinning method using the residue residues of fabrics produced from the clothing industry after lightening, which included - Production of cotton yarn with tiger 9/1, 8/1 with 50% mixing rate Cotton scraps: 50% raw polyester, Production of cotton twine with 1/8 inch with 20% mixing ratio. Cotton scrap: 80% raw polyester, Production of woolen yarn mixed with 8/1 - 6.5 / 1 ratio with mixing ratios 33% Wool clippings: 33% Cotton scraps: 33% raw polyester. Results: The highest value of the quality parameters of the yarns produced from 50% cotton clippings: 50% (9/1) the less value followed by yarns made from 33% Wool scraps: 33% Cotton scraps: 33% poly ester yarn: (6.5 / 1) in terms of the mechanical properties measured on these threads, which included tensile strength - elongation - durability. The study also confirmed that by increasing the thread size the tensile strength is increased and % of elongation also increases the strength

Keywords:
Open-ended spinning, Rotating textile exhausts, Yarns of open party yarn

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