

An optimum modern spinning methods achieving physiological comfort in circular weft knitting fabrics.

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Abstract:

Multiplication cotton yarn spinning methods, which produce yarns with various specifications and characteristics, as well as the multiplicity production process and production costs. Therefore, these yarns must be codified according to the nature of use of final product of both circular weft knitting fabrics single jersey and rib (1×1) which saves time, low cost, increase production, reflected on different characteristics of physiological comfort of both circular weft-knitting fabrics, quality and final product costs. Choosing cotton spinning method that is suitable for both circular weft knitting fabrics single jersey, rib (1×1) based on personal diligence (harming to the final product in terms of quality, final cost and physiological comfort to the end user) without reference to scientific and experimental standards accurate. Contribute to the activation of modern technological methods of cotton spinning method production field. The scarcity of experimental and analytical studies for both circular weft knitting fabrics single jersey, rib (1×1) and the related physical, mechanical and aesthetic properties related to the modern spinning methods of cotton yarn production to achieve physiological comfort in different forms of weft knitting fabrics for the end user.

Objectives: Determination the best modern cotton spinning methods achieving the physiological comfort in both circular weft knitting fabrics single jersey and rib (1×1), through both functional, motive, thermal, tactile, psychological and appearance characteristics without affecting on the physical and mechanical properties of produced fabrics and Determination the best weave structure of circular weft knitting fabrics single jersey, rib (1×1) achieving physiological comfort for the body using different yarn spinning methods. .

Methodology: The research follows the analytical and experimental method.

Results : Both circular weft-knitting fabrics single jersey, rib (1×1) produced from the compact combed yarn have the highest value in both the explosion resistance of the fabrics (Kilo Pascal), air permeability of the fabrics (ft³/ft²/min) and have low value in both fabrics thickness (mm), fabrics weight (gm/m²) for many reasons. Both circular weft-knitting fabrics single jersey, rib (1×1) produced from Open-end spinning yarn have the highest value in both fabrics weight (gm/m²), fabrics water absorption (%) and have lowest value in both explosion resistance of the fabrics (Kilo Pascal) for many reasons. Both circular weft-knitting fabrics single jersey, rib (1×1) produced from carded combed yarn spinning have the highest value in fabrics air permeability (ft³/ft²/min) for many reasons. Both circular weft-knitting fabrics single jersey, rib (1×1) produced from carded ring spinning yarns have the lowest value in both fabrics thickness (mm) for many reasons. Circular weft-knitting fabrics single jersey produced from compact combed yarn is the highest level in achieving physiological comfort (Sensory, thermal, motive and psychological) of the circular weft-knitting fabrics rib (1×1). Because of its high explosion resistance (Kilo Pascal) and fabrics air permeability (ft³/ft²/min), lowest fabrics thickness (mm), less water absorption (%) and has soft feel and therefore high resistance to wrinkle and crumbly regain its shape and appearance easily due to its weave structure.

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