

The Effect of Different Structural Factors on the Functional Properties of Warp Knitting Fabrics

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Abstract

Warp knitting is considered - so far - the most versatile, widely used and productive structure in the field of textiles in general, because warp knitted fabrics can be produced using flexible or fixed structures by an open or closed structural structure, and can also be produced flat, i.e. open in width, tubular or three-dimensional. The width of the weaving reaches 6 meters or more, even twice that width, without stitching the edges of the weaving to each other, even if the installation used is a net.

This great development helped in changing and developing the engineering of knitting fabrics production by introducing many methods to produce modern warp knitting fabrics with different methods. While maintaining the cost of economical production, they were helped by the flexible property of controlling the installation of warp knitwear, which attracts both the designer and the producer.

(7 samples) of warp knitting fabrics were designed and produced by using more than one feeding rod and implemented on a raschel knitting machine using a 44/12 polyester thread, with determining the best implementation specification she has. Laboratory tests were conducted to evaluate the functional properties of the produced fabrics under study, which showed after they were conducted that the difference in the number of feeding rods in warp knitted fabrics clearly affects the functional properties of the produced fabrics and gives strength to the different stresses on the fabrics during use.

Keywords:

Warp knitting; Open and closed stitches; Structures; Feed rods