

Benefiting from the crimp effect to design women's clothing

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Abstract:

The aim of this research is to apply chemicals to the industrial fabrics under study in order to achieve the main purpose, which is the occurrence of the crimp effect and to determine the best method used for the occurrence of the crimp effect of the used fabrics. It was possible to take advantage of the crimp effect in industrial fabrics and their blends. The ability of the designer to reshape the surface of the material or the artistic and technical treatment of the surface of the material in an innovative way, as the researcher did through the thesis. The crimp effect on the surface of the material to give a different effect and create a different design that adds an aesthetic aspect to the design. This research is considered one of the experimental researches that aims to identify the best type of raw material, and the processing material, which achieves the best functional and aesthetic properties of the produced fabrics. It deals with the production of fabrics with an aesthetic appearance from the effect of crimp, as well as with functional and aesthetic properties that serve the final product. After conducting chemical and mechanical treatments, the effects of the crimp required for research were obtained from sodium chloride, and from the mechanical treatment, the effect of regular crimp with different sizes of veins was obtained, as well as side effects such as burning resulting from sulfuric acid.

Research problem: The research problem is determined by studying the changes in the properties of industrial fabrics and their mixtures after the process of preparing the fabrics for wrinkle with mechanical processing, chemical processing and heat, in order to take advantage of the resulting effect on these fabrics and employ them in clothes to meet the requirements of the aesthetic form and the functional purpose of them, and determine this after comparing the results of tests for the properties of the fabrics before and after Processing to determine which properties can be utilized.

Objective: Benefiting from the effect of the crimping effect of industrial fabrics and their mixtures with chemical, mechanical and thermal treatments of fabrics .

Significance: 1- Choosing suitable fabrics for clothes from industrial fabrics and their mixtures, which are spread on a large scale 2- Determining the best method used for the crimp effect of the used fabrics

Research Methodology: The research follows the analytical method and the experimental method

Major Results: -Benefit from the crimping effect of industrial fabrics and their mixtures with chemical, mechanical and thermal treatments for fabrics . -The major result of this research is to apply chemicals to the industrial fabrics under study in order to achieve the main purpose, which is the occurrence of the crimp effect and to determine the best equipment used for the occurrence of the crimp effect of the used fabrics

Keywords:

chemical treatments-crimp -Fabrics

References:

- 1- Artzt P., "The Influence of Different Spinning Processes on The Structure and Properties of Yarns",2004.
- 2- Bauer-Kurz, Ina. "Fiber Crimp and Crimp Stability in Nonwoven Fabric",2010 .
- 3- Black, S., ed. "Fashioning fabrics: Contemporary textiles in fashion" London: Black Dog Publishing Limited,2006 .
- 4- Denton, M.J., and Morris, W.J. "Heat setting and yarn texturing". In: J.W.S. Hearle ,1999.
- 5- Fan,Q., "chemical testing of textiles", woodhead publishing LTD and CRC pres llc, 2005.
- 6- Haar, and Nguyen, "Experimental design with shibori and heat-setting techniques", 2005.
- 7- Ivanov, Lomov, Bogdanovich, M. Karahan, and I. Verpoest, "A comparative study of tensile properties of non-crimp 3D orthogonal weave and multi-layer plain weave e-glass composites",2009 .
- 8- Lee, J.S.: "Formation, properties and antimicrobial activity of cotton xanthate-Cu (II). Metronidazole Complex" Textile Res, 2000.
- 9- Maitra, K. "Encyclopaedic dictionary of clothing and textiles",2007.

- 10- R.H. Brand and P. Kende, "Measurement of three – dimensional fiber crimp", textile ,1999.
- 11- Morton W.E., Hearle J.W.S."Physical Properties of Textile Fibres; Heineman" 2002 .
- 12- Stig and S.Hallström, "Influence of crimp on 3D-woven fibre reinforced composites," Composite Structures, vol. 2013.
- 13- Tarakcıoglu I." Textile Finishing and Machines –Production and Finishing of Polyester Fibres" Aracılar Publishing Co.Izmir,1999.
- 14- Usenko V.,” Processing of Man-made Fibres” , Moscow,1999.
- 15- Varma,D.S,Varma,M.andVarma,I.K,"Effect of physical and chemical treatments on properties",textile Res.J.,2009.

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