

Using of factory waste of dyed cotton yarns in the design of shirt fabrics and its effect the properties of fabrics, depending on the design programs to simulate the final product

Dr. Asem Ali Mohamed

Lecturer, Department of Spinning and Weaving, Faculty of Technology and Education,
Suez University, Egypt.

Dr.assem.ali@ind.suezuni.edu.eg

Researcher. Wessam Hussein Said

Department of Spinning and Weaving, Faculty of Applied Arts, Beni Suef University

wessamhusseinsayed112_sd@appart.bsu.edu.eg

Abstract:

The yarn and textile factory waste is a wasted value, which constitutes an economic burden on manufacturers. In addition, it occupies a large area of the factory space to store it, where the use of these yarns can be used to produce new fabrics with unconventional designs, in line with the general taste of the consumer. Which benefits the manufacturer.

The weaving process and the dyeing process are the basic process for producing fabrics that can be used for the purposes for which they are manufactured, and in those two stages, the threads are overlapped according to the proposed weaving structure (design).

Just as the efficiency of the weaving process and its quality are related to the efficiency of the preparation, the quality of the produced fabrics also depends on the nature of the fabric composition used, in addition to the stability of the tensile strength of the threads on the loom used, which affects the quality level of the produced fabric. As for dyeing and colors, they reflect the nature and taste of the user, which is the main focus in the design of fabrics.

Keywords:

Use of factory leftovers, cotton threads, shirt fabrics

An Introduction

Waste yarn from textile factories is a wasted value, which constitutes an economic burden on manufacturers. In addition, it occupies a large area of the factory space for storage, as it is possible to benefit from the use of these yarns in the production of new fabrics with non-traditional designs, in line with the general taste of the consumer. Which is beneficial to the manufacturer.

The weaving and dyeing process is the basic process for producing fabrics that can be used for the purposes for which it is manufactured, and in those two stages the threads are overlapped according to the proposed weaving structure (design).

Just as the efficiency of the weaving process and its quality are related to the efficiency of preparation, the quality of the produced fabrics also depends on the nature of the textile structure used, in addition to the stability of the tensile strength of the threads on the loom used, which affects the level of quality of the produced fabric. As for dyeing and colors, they reflect the nature and taste of the user, which is the main focus in designing fabrics.

As these fabrics designed from leftover threads can be employed in the production of men's and

women's shirts in a non-traditional design style that depends mainly on the designer's innovation and the taste of the year, which competes with traditional fabrics in design. In this research paper, the focus was on designing and producing these fabrics, and studying their impact on the local and global market in terms of supply and demand.

Research problem:-

Factory waste from yarns is a compulsory matter when producing fabrics, which is a big problem for owners of large and small factories during the production stages (warping, recycling and weaving). Most recent studies focus on making use of these wastes.

The importance of the research: The importance of the research is due to the following considerations

- 1- Industrial considerations: - Limited to the ability to manufacture fabrics from leftover cotton threads, with the importance of optimal use of non-traditional design to reach a high quality level commensurate with market requirements.
- 2- Economic considerations: They are limited to the ability to benefit materially from those wasted wastes, which benefit the factory in particular, and the state in general.
- 3- Environmental considerations: - They are limited to achieving the environmental dimension to preserve the environment and the optimal use of raw materials, exhausts and factory waste.

Research goal:

- Designing non-traditional fabrics with a competitive quality level.
- Maximizing the added value of the final product.
- Studying the effect of the physical properties of the produced fabrics.

Research hypotheses:-

- The difference in the number of the threads used on the properties of the fabrics.
- Different thread colors and their effect on the aesthetic appearance of the design.

Research Methodology :-

The research follows the analytical experimental method

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