Benefit from Flax Fiber Cross Section Shape in Fabrics Design

Dr. Azza Mohamed Mohamed El Halwany

Lecturer of Textile Department- Faculty of Applied Arts- Beni Suef University

azzahalwany@gmail.com

Abstract

Human has invented textile industry since ancient times, in search of what protects the body from external factors surrounding him, from different climatic changes and other environmental factors.

Flax fibers are found in the outer shell of the stalk of the flax plant, these fibers are distinguished by their appearance in the form of polygonal cells under the microscope, which are pentagon or hexagon shapes, and have an outer wall that separates each one from the other.

These fibers are attached to each other by lignin, forming bundles that consist of large number of flax fibers, which are separated during the maceration process.

Many pieces of linen fabrics were found in the era of the ancient Egyptians, which were made from flax yarns, also ancient Egyptians used linen fabrics in their daily clothes, as well as in shrouding their dead after the mummification process.

This research benefits from flax fiber shape in textile design, and the use of the microscopic shape of the cross-section of them to draw number of textile designs inspired from the cross-section shape of these fibers, to produce fabrics that are suitable for upholstery fabrics, using (Ned Graphic Textile Program) to implement the design ideas.

Using (Photoshop software program) to make some changes in the shape of the fiber sector, and add some effects to these designs.

6 ideas were designed from the flax fibers cross-section shape, choosing three color groups for each of these designs, where each design consists of five different colors (two colors of warp: two colors of the weft: one color blend between one color from warp and one color from weft).

Use the graph to determine the percentage of five color appearance used in each design.

Key words

Flax Fiber- Cross Section- Textile Design- textile program- Double Weave.

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