

Making use of material varieties in textile products to attain aesthetical and functional values for upholstery fabrics

Summary

The design of upholstery fabrics is so complicated because of multiple variables so that they are no longer just treatment for exterior only but treated product from quality raw materials ratios and count of threads and the rest of the structural composition factors textiles.

In addition to the technical and aesthetic values that the textile designer seeks to achieve, there are important properties as tensile strength and abrasion resistance must be met with adequate and appropriate to the cope with and withstand the stresses encountered during use.

Textiles raw materials play an important role in helping the designer to show the many functional and aesthetic values of upholstery fabrics ,in this research we are using various types of materials to take into account the differing composition textiles used with each raw martial based on the expected target of using raw material for special effects in specific locations to serve the final design that textile compositions play a major role in the formation of functional and aesthetic dimensions of fabrics and are unsigned set of samples of different materials and different textile structures in each case Match the color space of all primary products and places they appear.

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Using metallic yarns in developing upholstery Fabrics production to get a competitive product

Summary

The produced samples of the research depended on showing up the designer ability at controlling the distribution of the colour areas in the design and his ability to use the metallic yarns as weft yarns and distributing their appearance on the textile design so as to develop the upholstery fabrics production and to reach a product specialized by having a new invented idea and unique in using the metallic yarns as weft yarns and have the way of differing the method of their distribution in the design of the textile product and varying the appearance of the metallic yarns on the ornamentation or the ground or as outline to the ornamentation only in the design to give a new beautiful appearance and innovated to the fabrics produced in this research and suits at the same time their function performance and their usage as upholstery or curtains .

Beside variation the appearing areas of the metallic yarns in the design we produced the research samples by two different specifications for the warp where we used one colour for the first warp and two colours with sequent . for the second warp on the other machine and that was done to know the creative abilities of the designer to control the appearing areas of the metallic yarns and distributing it in the design and the produced samples in the research though the warp is one or two colours.

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Development of technical and artistical properties for mok leno fabrics

Summary

Textile structures used in traditional leno textiles are predominantly typical in their artistic dimensions and in their utilization of just a single colour for both warp and weft, which in turn leads to the lack of a multitude of aesthetic values especially in the department of colour and the aesthetic effects which are of great importance in the field of textile design.

A number of structural solutions were proposed in this paper which fulfills the aim of this paper through the usage of a multitude of textile structures where the all yarns (warp and weft), both even and odd, to produce the leno units with different floats of 9, 7,5,11,10,15. This is done with the sole purpose of inducing different colour and artistic effects from all the yarns and these leno textiles are produced on a single beam loom and without the need for any preoperational steps needed for traditional leno textiles.

Test samples were produced on two stages by producing 8 samples with different artistic values which helps the designer to use these designs in men, women and children clothes and upholstery in accordance with the used specification.

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Using metallic yarns in developing upholstery Fabrics production to get a competitive product

Summary

This research depended on some physical and mechanical fabrics properties to study the effect of using metallic yarns inside upholstery fabrics, and know the advantage and disadvantage of using those yarns on upholstery properties. We produced fifteen samples for the research with one warp specification (material – count – density) for all research samples and used only two variables as follows :-

- 1- Variation of structures (length float of wefts): where we varied the float length for the used wefts by changing the used weave structure.
- 2- The ratio between the metallic yarns to classic yarns: variation was done by changing the used weft sequence.

We made some experiments on the research produced samples such as (fabrics weight – stiffness – tearing resistance – strength – friction resistance) associated with studying and discussing the effect of research variables on the specifications of produced samples – then we analyzed those experimental results to show the effect of using the metallic yarns on fabrics properties.

The most important results of the done experimental on the produced fabrics were as follows:-

1- The length of weft float inside the structure has a direct relation with the fabrics strength at warp direction, tearing resistance at both warp and weft directions and the weight of meter square - and it has an inverse relation with the fabrics strength at weft direction, the elongation of both warp and weft direction, the fabrics stiffness and friction resistant.

2- There is a direct relation between the ratio of the metallic yarns and the fabric elongation at weft direction – also there is an inverse relation between the ratio of the metallic yarns and fabric strength at warp and weft direction, tearing resistant at warp and weft direction, stiffness at warp and weft direction, elongation at warp direction, friction resistance and the weight of meter square

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Improving the capacity of the textile designer to create compound structures fabric using computer software (weave editor)

Summary

Fabric structures effect on functional and aesthetical sides of upholstery fabrics ,so the competition is difficult locally and internationally and innovation and distinctiveness become the only to stay in the competition, also the compound fabric structures is the most widespread in the upholstery fabrics, which will enable the designer to get many of the color effects and different textures which it has become the first influential not only on the functional characteristics of the product, but the aesthetical characteristics also became the aesthetical picture, which established by the designer cannot be developed in isolation from his vision for the manner, in textiles used route and building fabric structures and can be provided by that my personal experience of the items that can be used to complete the picture, and sometimes those vocabulary is based on the picture.

The program (weave editor) is a branch software from Ned Graphic program which helps the designer to build compound fabric structures easily, where the role of the designer to propose an interlacement between warp and weft thread while the program collect the fabric weave and calculation could also see the cross sector and can also show simulation to the fabric structures after adding color threads for warp and weft and its count and quality

From research we can find that:

1- When using the composite method to draw textile weaves than innovative designer capabilities through easy draw and group it and change them and provide substitutes.

2-This method enables the textile designer to understand how to build textile weaves in case of multiplicity of wefts, and reach the largest possible number of textile weaves both appear individually or in multiple ways to mix them.

3-Also, familiarity with the nature of textile weaves used helps the designer to choose the appropriate color spaces to arise which contribute to improving the aesthetic values as well as the properties of produced fabrics.

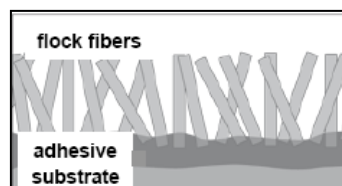
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Effect of Applying Flocking Method on the Abrasion Properties of Selected Upholstery Fabrics

Summary

Upholstery fabrics are used widely in the field of textiles differs from other types of textiles in design and method of production. Some modern technologies have been occurred to develop the method of producing upholstery fabrics. One of these methods is flocking .Flocking is a process of applying short fibers – called flock – to an adhesive coated surface, or in other words flock is very short monofilament fibers attached to the surface to make a surface effect that is similar to nap or pile. The flock can cover either the entire surface area or it can be printed onto the surface area in a pattern of some sort to make a design.



Flock Fibers are stuck to the Substrate Surface by an Adhesive

The flocking process is used on items ranging from retail consumer goods to products with high-technology military applications. Flocked products are used in numerous applications, which must withstand daily heavy use. Fibers used in flocked fabrics could be Nylon, Polyester or Poly acrylic. Despite of the various advantages, such fabrics with the flocking method are distinguished with such softness, fuzzy surface and good appearance; it lacks some functional properties such as abrasion resistance which affect the quality of the fabrics produced from it. Flocked fabrics are influenced with the weave structure, weft yarn materials and also the flocking ratio which reflects in turn on the end product properties .Due to this, it is very important to study these types of fabrics, enriching it and also improving its properties so that to meet the functional purpose it is produced for. Also for confronting the world variables in textile market that cannot be penetrated or even be dealt with, but through high quality. This research aims to study the effect of applying flocking method on abrasion properties of selected upholstery fabrics.

From the previous results and discussion concerning with flocked fabrics abrasion properties some conclusions were achieved benefiting from it in the production of flocked fabrics and these could increase the efficiency of the functional performance of those fabrics. These conclusions are:

The float length has a direct proportional relationship with fabric abrasion resistance in flocked fabrics but has an inverse proportional relationship with fabric abrasion resistance in fabrics without flock.

The fabrics produced from Polyester have recorded the highest values in abrasion resistance.

The flocking ratio has a direct proportional relationship with abrasion resistance.

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Influence of structural factors on the physical and mechanical properties of upholstery fabrics

Summary

Textiles fabrics are manufactured for many different end uses, and accordingly each one of these fabrics has to fulfil different performance requirements. The chemical and physical structures of textile fabric determine how it will perform, and ultimately whether it is acceptable for a particular end use. This research is concerned with studying selected weave structures and their effect on the properties of the resulting upholstery fabrics. Three structures were used for producing research samples under study. The selected structures all depended on plain weaves, but with varying float length. For weft yarns, three different materials were used (Cotton – Polyester – Poly acrylic).

Results reveal that there is an inverse proportional relationship between the float length and each of the fabric weight, fabric abrasion resistance, and fabric tensile strength in both warp and weft directions. Moreover there is a direct proportional relationship between float lengths and tear strength in warp and weft direction.

Fabrics produced from Polyester have scored the highest values in abrasion resistance, tensile strength in warp and weft direction, and tear strength in warp and weft direction.

Fabrics produced from Poly acrylic have scored the highest elongation values in warp and weft direction.

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