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The Effect of Fabric Construction Elements Variation on Some Mechanical and Physical Properties for Sueded Finished Fabrics

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Abstract:

In recent years, the use of sueding finishing has increased mainly in upholstery and clothing fabrics because it gives an aesthetic value in the fabrics and fibrous surface.

When the grey fabric is sueded, it can affect the physical and mechanical properties of fabrics. The aim of this research is to investigate the effect of the sueding finishing on mechanical and physical properties and to put the most suitable standards for producing sueded fabrics by studying the relationship between fabric construction and sueding. In this research, there are 9 upholstery fabric samples, produced by using the same count in weft but different in the number of fibres in the cross-section filament and in weave structures. The grey and finished fabrics were tested with some mechanical tests. The test results obtained showed that the finished fabrics scored high rates in abrasion resistance than grey fabrics. The grey fabrics have scored high rates in tensile strength and fabric stiffness

Keywords:

Sueding, Mechanical Properties, Fabric Construction, Weave Structure, Tensile Strength, Abrasion Resistance, Stiffness.

References:

- 1- A. K. R. Choudhury, Principles of Textile Finishing. Woodhead Publishing, 2017.
- 2- C. Tomasino, "Effect of mechanical finishing on fabric hand," in Effect of Mechanical and Physical Properties on Fabric Hand, Elsevier, 2005, pp. 342–371. doi: 10.1533/9781845690984.3.342.
- 3- Heywood.D., Textile Finishing. The Society of Dyers and Colourists. 2004.
- 4- Rouette, H.K.; Schwager, B., Encyclopedia of textile finishing. Berlin, Germany: Springer, 2001.
- 5- A. Fisher, "Finishing synthetic fibre fabrics," Journal of the Society of Dyers and Colourists, vol. 109, no. 12, pp. 385–387, 1993.
- 6- C. Tomasino, "Chemistry & Technology of Fabric Preparation & Finishing," p. 268.
- 7- ASTM D 5035 "Standard test method for measuring tensile strength for fabric".
- 8- ASTM D 3885. "Standard test method for measuring stiffness for fabric".
- 9- JIS L 1018" Standard test method for measuring fabric abrasion resistance".

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