

The Effect of using Ultrasonic In Sewing Leather Garments

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Abstract:

The aim of this study was to investigate the effect of modern ultrasound sewing on the quality of synthetic leather garments. This research that has been applied will provide information about the ultrasound sewing technology and help the factories move towards these technologies in order to help provide the auxiliary materials and reduce the environmental waste that results from traditional sewing. This research includes recent developments in the construction of modern sewing, and the research paper presents how to take advantage of ultrasonic sewing as an alternative to traditional sewing for leather clothing materials. Two types of synthetic leather were used (synthetic leather with a rubber / synthetic leather without rubber). **Research problem:** The research problem is presented through the following questions: How can ultrasonic sewing be used to enrich the functional side of leather garments? The effect of ultrasonic sewing on synthetic leather materials? **Methodology:** The research used the descriptive analytical, and experimental methods. **Results:** The research sewed five samples of two types of synthetic leather, and each type of leather was given a code where Sample 1-1 means synthetic leather without rubber and Sample 1-2 means synthetic leather with rubber; and sewing was carried out using the traditional method for two types of sewing (objective sewing and overlap sewing). The research made samples of ultrasonic sewing in order to measure the strength and durability of these sewing so that they are an alternative to traditional sewing. Two types of sewing were used: Seam Sealing Tapes and Ultrasonic Welding. The tools used to implement samples such as machines and raw materials were described and initial tests were conducted to characterize the study samples, then tests were conducted after the implementation of modern and traditional sewing. This test was performed in the textile laboratory at the Center for Measurement and Calibration. It is clear from that there are statistically significant differences between traditional sewing (objective, superposed) and ultrasonic sewing (Bonding, Welding) in the variables (tensile strength, water permeability, air permeability) and in favor of ultrasonic sewing, at the level of 0.05, while there are no statistically significant differences between traditional sewing (objective, overlap) and ultrasonic sewing (Bonding, Welding) in the degree of appearance.

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Keywords :

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