

Ultrasonic Sewing of Clothing Accessories as an Environmental Approach to Green Manufacturing

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Abstract:

Manufacturing and the environment have a strong mutually beneficial relationship that is crucial for productivity. Using green manufacturing in production processes have gained popularity among researchers and owners of multinational corporations. A "green" alternative to traditional sewing i.e. using ultrasonic technology has piqued the interest of ready-to-wear manufacturers to reduce the environmental impact. The goal of this paper is to improve the performance of sewing garment accessories "zippers" by drawing a comparison between the traditional method and ultrasonic welding method of installing zippers. To study relationship between two methods experiments made on fabrics to measure the laboratory characteristics of knitted fabrics (weight per square meter, thickness, etc.). a comparison was made between the samples through tests (tensile strength and elongation, Crease, appearance (before/after) washing). The results demonstrated differences in favor of ultrasonic welding [USW], which helped to reduce the waste of sewing threads and contributed to environmental preservation.

Keywords :

Ultrasonic Welding (USW) Traditional Sewing, Garment Accessories, Green Manufacturing

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Paper History:

Paper received June 19, 2023, Accepted September 17, 2023, Published on line November 1, 2023