

## " utilization of Ultrasonic Seams in Designing Treated Sportswear"

**Prof. Dr. Ahmed Hosni Khattab**

**Professor of Clothing Production Technology, Ready-Made Garments Department -**

**Faculty of Applied Arts - Helwan University**

[dr\\_ahkn@yahoo.com](mailto:dr_ahkn@yahoo.com)

**Assist.Prof. Dr. Ahmed Mahmoud Abdo El Sheikh**

**Associate Professor of Clothing Technology, Department of Clothing and Fashion**

**Technology, Faculty of Applied Arts - Benha University.**

[ahmed.elshaikh@fapa.bu.edu.eg](mailto:ahmed.elshaikh@fapa.bu.edu.eg)

**Assist.Prof. Dr. Ahmed Fahim El-Barbary**

**Associate Professor of Clothing Technology, Department of Clothing and Fashion**

**Technology - Faculty of Applied Arts - Benha University**

[Ahmed.elbarbary@fapa.bu.edu.eg](mailto:Ahmed.elbarbary@fapa.bu.edu.eg)

**Researcher / Shaimaa Ahmed Mohamed Kamel**

**Assistant Lecturer, Ready-Made Garments Technology Department**

**Faculty of Applied Arts - Benha University**

[shimaa.kamel@fapa.bu.edu.eg](mailto:shimaa.kamel@fapa.bu.edu.eg)

### **Research Summary:**

The ready-made garment industry is currently witnessing rapid growth and occupies a special importance all over the world, especially with the rapid and increasing developments in machinery and equipment used in the clothing industry, as this industry is linked to modern technology that has appeared in our daily lives, and also many industries in our time have dealt with the use of wave technology Ultrasonic, including the clothing industry, because of its great importance, as it helps to improve the aesthetic appearance and functional performance of the product, as well as reduce the consumption and reduce the waste of yarns used in traditional knits. In knitting the processed industrial raw materials for sportswear products, where the study reviews how to benefit from ultrasonic knitting for the knitting of treated sportswear, where the industrial sports raw materials are equipped with natural treatments that help the knitting process and after obtaining the treated raw materials and determining the required properties on polyester fabrics (96/ 150) A set of tests (tensile strength of knitting The elongation of knitting - the appearance of knitting) in order to measure the differences between ultrasonic knitting and traditional knitting. It gives high tensile strength to knitting with high elongation and appearance, so the research paper helps sportswear factories to use ultrasonic knitting in knitting sportswear because this technology has environmental benefits, the most important of which is reducing the use of threads that harm the environment, as well as obtaining sportswear It contains a great deal of comfort, functionality and aesthetics.

### **Keywords:**

Ultrasonic ,Sewing Seam,Sportswear Design ,Industrial Raw Material