

## Utilizing bubble wrap waste functionally and aesthetically in the field of sports and performance clothing

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### **Abstract:**

The idea of the research came about using waste transparent polyethylene material, or what is commercially called Bubble Wrap material, or air bubbles in the field of clothing, as this material is used in packaging fragile materials and acts as a shock-protective air cushion around devices that could be exposed to damage. The two researchers indicated the possibility of using it in the production of a sports chest protector lined with it to protect the player from the shocks he receives in the chest area, and because the material (Bubble Wrap) has a high plastic potential, the two researchers also thought of using it to design and form an innovative group of women's performance costumes without seams and at the lowest cost.

**Research problem :** 1-How to obtain leftover material (Bubble Wrap) while preserving it without damage 2-Can Bubble Wrap be used to produce a sports chest protector for use in wrestling games? 3-What is the possibility of using bubble wrap material in designing and forming women's show clothes?

**research aims:** 1- Using bubble wrap waste in clothing in a healthy, environmentally friendly way. 2-Using bubble wrap material in designing and forming an innovative collection of women's performance costumes. 3- Implementing a high-quality sports chest protector lined with bubble wrap material to prevent shocks at the lowest cost.

**research importance:** 1- Keeping the environment clean by using various waste materials in a way that does not harm the environment and limits climate changes. 2-Shedding light on the Bubble Wrap material, its aesthetic and functional properties, and adapting it for use in the field of clothing. 3- Designing innovative show clothes with new ideas and lower cost. 4- Paying attention to the field of sportswear by producing innovative sportswear using new, environmentally friendly materials at the lowest cost.

**Research Methodology:** The applied descriptive approach is suitable for achieving the research objectives.

**research results:** - It is possible to benefit from the waste of the "Bubble Warab" material aesthetically and functionally in the field of performance clothing and the best proposed designs according to the agreement of the judges' opinions. The designs (1, 5, 2, 3, 6, 4, 7) were in order, as they obtained an appropriate level in percentages ranging between (100% to 91.5%) It is also possible to benefit from the waste of the "Bubble Warab" material aesthetically and functionally in the field of sports clothing, as a sports chest protector lined with the material in question was produced to protect the player from the shocks he receives in the chest area during play, especially in sparring games such as karate, judo, and others, and by arbitrating the implemented protector. From specialists in the field of clothing as well as in sports, the protector received a high rating, which indicates its success and the possibility of players using it for excellent shock prevention.

### **Keywords :**

Bubble Wrap waste - sports clothing - performance clothing

### **References :**

- 1- Ahmad Shehata Abu Al-Majd, Mona Hassan, Akmal Abdel-Rahman: (2018) Modern techniques used in designing contemporary show scenes. *Journal of Architecture, Arts and Human Sciences*. Publisher: The Arab Society for Islamic Civilization and Arts. Issue 12-2018
- 2- Shadi Abdel Salam: A Ray of Egypt - Contemporary Thought Magazine - a special issue of the Egyptian Book Authority Press - December 1994 - p. 223
- 3- Fatima Abd Maleh - Bayan Ali, Israa Qahtan: Foundations of Fencing - Baghdad - 2009 AD.
- 4- Mohsen Muhammad Attia: New Horizons for Art - World of Books - Cairo - 2005 AD - p. 89.
- 5- Wasima Abdul Rahman Al-Aql - Designing performance costumes inspired by traditional costumes in the Kingdom of Saudi Arabia - Published research - *Jordanian Journal of Arts* - Volume 15 - Issue 4 - 2022 AD - pp. 687-704
- 6- Gharbia, Wissam Rajab (2010). An Analytical Study of Performing Costumes for Folklore Groups for Use in Expressive Fashion Design. Master Thesis, Menoufia University, Faculty of Home Economics, Department of Clothes and Textile, 2018.
- 7- Debasish padhy: bubble wrap manufacturing process, Mar 29, 2012
- 8- Karen Malone: The Bubble-Wrap Generation: Children Growing Up In Walled Gardens, *Environmental Education Research*, Vol. 13, No. 4, September 2007, pp. 513-527
- 9- Autumn Hahn, Bubble Wrap Your Kids, August 14, 2013
- 10- Sutton, J., & Turner, B Plastic Bags: Hazards and Mitigation. p4, 2012.
- 11- Reisser, J., Shaw, J., Wilcox, C., Hardesty, B. D., Proietti, M., . . . Pattiaratchi, C, 2013. Marine Plastic Pollution in Waters around Australia: Characteristics, Concentrations, and Pathways. *PLOS ONE*, 8(11), 1-11. Retrieved 1 2, 2023, from <https://journals.plos.org/plosone/article?id=10.1371/journal>.
- 12- HUE. Kaynak A , and Liy : Development of cooling fabric from conducting polymer coated fibers : proof of concept ,

Journal of synthetic metals , vol 15, 2005.

13- "Bubble Film and Bags". Packaging Knowledge. Retrieved September 28, 2010

14- [https://www.packagingknowledge.com/bubble\\_film\\_bags.asp](https://www.packagingknowledge.com/bubble_film_bags.asp)

15- <https://www.katzke.com/blog/how-its-made-bubble-wrap>

16- Bubble wrap - packing material, :Francesca Rodbel

17- MEGHAN BURCH, DIY Art: Bubble Wrap Stamps for Preschoolers, AUG 31, 2016

18- <https://www.scholastic.com/parents/school-success/learning-toolkit-blog/diy-art-bubble-wrap-stamps-preschoolers.html>

19- <https://www.artycraftykids.com/art/bubble-wrap-printing>

20- <https://www.youm7.com>

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