

Vegan tea leather cocktail dress for sustainable fashion industry

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The rising demand for leather goods in the marketplace, coupled with the global shift in awareness toward reducing carbon emissions, will require the leather industry's carbon footprint to be taken into account. Alternatives to animal leather are imperative for the future of the leather industry in order to meet market demand, if we are taking into consideration the well-being of our planet and society (Klein, 2018). The objective of this project was to explore using vegan tea leather as an alternative to animal leather for garment production and accessories.

A self-developed vegan tea leather was used to create a cocktail dress with earth tone flower arrangements as decoration and accessories. The materials were developed over a 14month period and consisted of multicolor and multi-texture materials created in the laboratory. Both 2D and 3D methods were adopted using molds and surfaces to create different textures and shapes for determined applications (Llanos, 2012). All materials created were utilized in order to construct the experimental tea cocktail dress and accessories. A total of ten pieces of tea leather with the dimensions 11 ¹/₂" by 19 ¹/₂" -inches were developed and dried on a flat smooth surface in order to create even 2D panels. Several cup-size circles were developed to produce 3D flowers

This sleeveless cocktail dress was created using a princess line bodice joined at the waist seam to a six-panel mini flare skirt with a scalloped hem. To create the sleeveless dress, both flat patternmaking and draping techniques were used. This unique vegan leather dress includes an invisible zipper at the side-seam and a waist belt. The bodice was developed using a draping technique to create a v-shaped neckline on the front bodice and a deep sloped back neckline which met at the shoulder seams. Both the front and back bodice encompass princess seams. The six-gore skirt was developed using a flat pattern technique. Three muslins garments were constructed in order to test the fitting, shape, and silhouette of the cocktail dress. Due to the fittings, adjustments could be made prior to the construction of the final garment using the vegan tea leather. The construction process using the tea leather was challenging because no mistakes

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could be made in order to avoid unnecessary punctures in the material, which are not easily hidden.

The vegan tea cocktail dress and accessories tied together three major elements: flowers, smooth panels of vegan tea leather, and vintage beading. Flowers and vintage beads were used to create the earrings, bracelet, lei necklace, headband and waist belt tassels. The smooth vegan tea leather was used to construct the cocktail dress, bodice and skirt, the waist belt, headband detailing, and the coin purse. Cotton twill tape was used in both the headband and waist belt. The intention was to demonstrate different applications of the vegan tea leather using various products. Consistent textures, color tones, and embellishments can be found throughout every accessory and garment. Vegan tea leather can be used to create many different products. This project explored the development of new products for local fashion businesses. The production of the material is also useful for scholars, researchers, and can guide future development of new sources of vegan leather.

Reference:

- ASTM Test Method D 1388. (2018). Standard test method for stiffness of fabric. American Society for Testing & Materials manual.
- ASTM Test Method D 1424. (2019). Standard test method for tearing strength of fabrics by falling-pendulum type (Elmendorf) Apparatus. American Society of Testing & Materials manual.
- Klein, A. (2018). What not to wear. New Scientist, 238(3182), 22.
- Llanos, M. (2012). Suzanne Lee and her celluloid clothing. Trendland. Retrieved June 12, 2020, from <u>http://trendland.com/suzanne-lee-and-her-celluloid-clothing/</u>.



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