Effects of Integrating Light Emitting Diode (LED) on Different Fabrics Properties Used for Fashion Design

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Abstract:
Humans are usually attracted to light, as they have always been amused with the effects that light could cause when it falls on a substance, changing its physical appearance and creating a whole new range of aesthetic values, designers began to think of not only using elements to catch light on their garments such as mirrors, beads and sequins, but also using ones to emit light from clothes, from the most convenient technologies was the Light Emitting Diode (LED) as it has a long life time, high brightness, small in size, can be operated by batteries, etc. By the rise of futuristic fashion trends, LED clothes were accepted and worn by artists in live performances as they add surprising, entertaining impacts on the audiences. Also they were present powerfully in popular fashion events. Although this technology offers the designers with new innovative artistic ideas, it has effects on different synthetic fabrics’ mechanical properties and color strength (bursting strength, maximum force and elongation, K/S and color reflectance) that must be recognized, as when we exposed several samples of fabrics (20*20) cm² to warm white LED light (2700 Kelvin) for different interval of times (80, 110, 140) hours we found that the values of the previous properties have changed compared to the standard samples’ values (samples that weren’t exposed to light).

Keywords:  
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