

Electrostatic and Dielectric Measurements for Hair Building Fibers from DC to Microwave Frequencies

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Abstract : In the recent years, the hair building fiber has become popular, in other words, it is an effective method which helps people who suffer hair loss or sparse hair since the hair building fiber is capable to create a natural look of simulated hair rapidly. In the markets, there are a lot of hair fiber brands that have been designed to formulate an intense bond with hair strands and make the hair appear more voluminous instantly. However, those products have their own set of properties. Thus, in this report, some measurement techniques are proposed to identify those products. Up to five different brands of hair fiber are tested. The electrostatic and dielectric properties of the hair fibers are macroscopically tested using design DC and high-frequency microwave techniques. Besides, the hair fibers are microscopically analysis by magnifying the structures of the fiber using scanning electron microscope (SEM). From the SEM photos, the comparison of the uniformly shaped and broken rate of the hair fibers in the different bulk samples can be observed respectively.

Keywords : hair fiber, electrostatic, dielectric properties, broken rate, microwave techniques

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