



## Combing Resistance

Environmentally conditioned, equivalent curly hair tresses were removed from their high humidity environments at designated time intervals. These treated and untreated hair tresses were then tested for “frizz”<sup>3</sup> by pulling the tresses through a Conair fine tooth comb<sup>4</sup> to determine the resultant frictional resistance. Greater resistance through the comb (i.e., higher pull force in grams, gF) indicates greater frizz.<sup>5</sup>

Frictional resistance was measured using a Mark-10 single column type motorized constant-rate-of-motion test system fitted with a precision M5-2 force gauge measuring grams of force at a rate of 50-samples per second.

Two identical Conair combs were used for testing, one for the product under test treated hair tresses and the other for the untreated strands. This was done to prevent potential contamination (i.e., leftover product on the comb / grease, etc.).

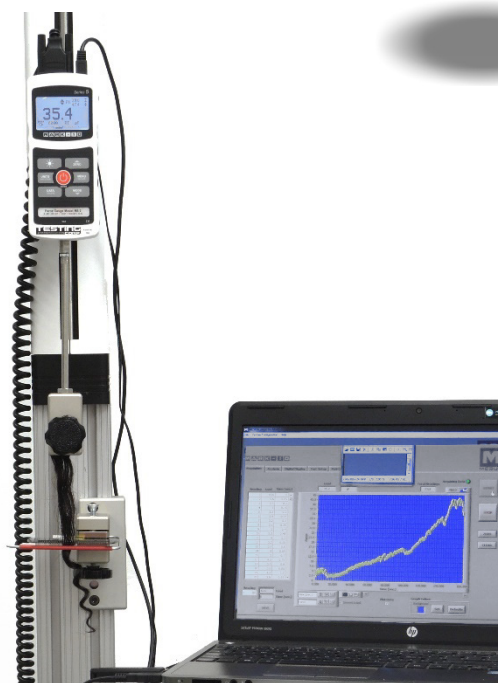


Figure 9: Resistance testing in-progress

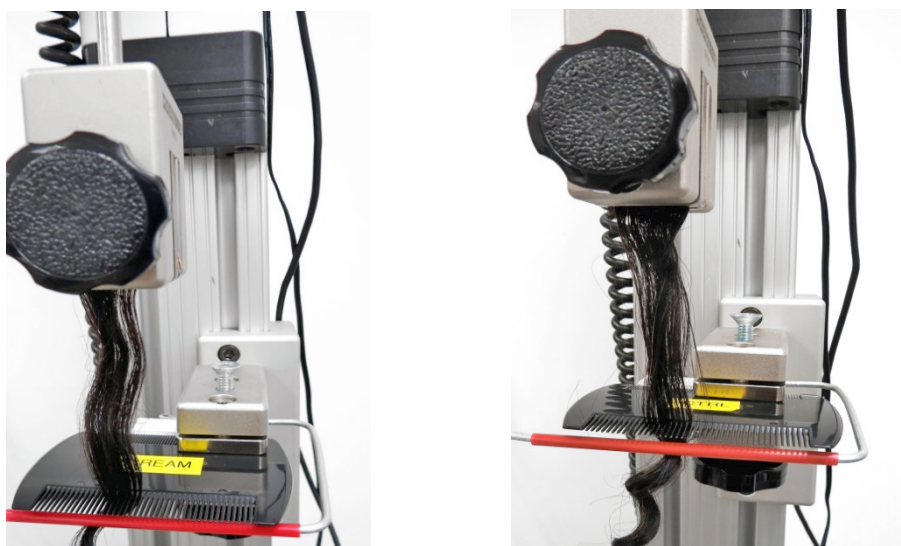


Figure 10: Treated (Cream) and Untreated (CTRL) tresses being pulled using Mark-10 test system

Developed test data follows:

<sup>3</sup> “Frizz is hair that does not align with the surrounding hairs, but stands up or curls independently, creating a fuzzy or irregular texture.” Source: <https://en.wikipedia.org/wiki/Frizz>

<sup>4</sup> Conair Styling Essentials, Extra Fine Tooth Comb UPC 074108935939

<sup>5</sup> Tensile tester measurements of frictional forces from a hair tress being pulled through a comb is a broadly used hair condition test process initially proposed in the presentation, Combability Measurements on Human Hair, Mario L. Garcia, Ph.D. and Jose Diaz, B.S., Society of Cosmetic Chemists 27, 379-398 (September 1976).

“Combability can be defined as the subjective perception of the relative ease or difficulty with which human hair can be combed. It depends on the magnitude and on the fluctuations of the forces that oppose combing”