FANCORSIL® LIM

Naturally Derived Hair Conditioning and Repair

INTRODUCTION

It has been determined from previous studies that FANCORSIL® LIM products (Dimethiconol Meadowfoamate and PEG-8 Dimethicone Meadowfoamate) are effective hair conditioning agents. The purpose of these studies is to determine if the application of heat accelerates and/or enhances the degree and extent of conditioning provided by these ingredients.

EFFICACY DATA

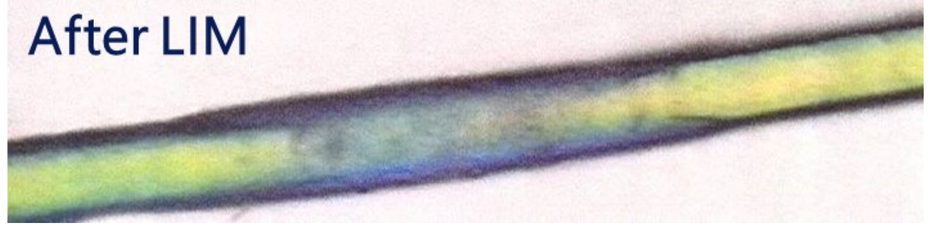
Repair of the Hair Shaft

Single damaged hair fibers were mounted in an immersion microscopic slide. An Olympus polarized light microscope equipped with a full wave filter and photomicrograph equipment was used for time-lapse recording of changes in birefringence in the hair fiber.

Test solutions: FANCORSIL® LIM-1 at 1% in water and, as a control, water alone introduced onto the microscopic slide and allowed to enter the viewing area during photographic recording.

Damaged hair fiber as seen in polarized light microscopy:

Same damaged hair fiber, treated with FANCORSIL® LIM, as seen in polarized light microscopy:



The above photos clearly demonstrate repair of the damaged fiber as observed by cuticular realignment as well as a return of the overall fiber shape and size to “normal” dimensions. It appears that during damage, the internal fibrillar structure of the hair shaft is disrupted giving rise to a condensed anisotropic section that is likely prone to be easily broken. Upon treatment with FANCORSIL® LIM, the fiber assumes a more normal isotropic architecture, which is oriented, and revolumized.

Strengthening of the Hair Shaft

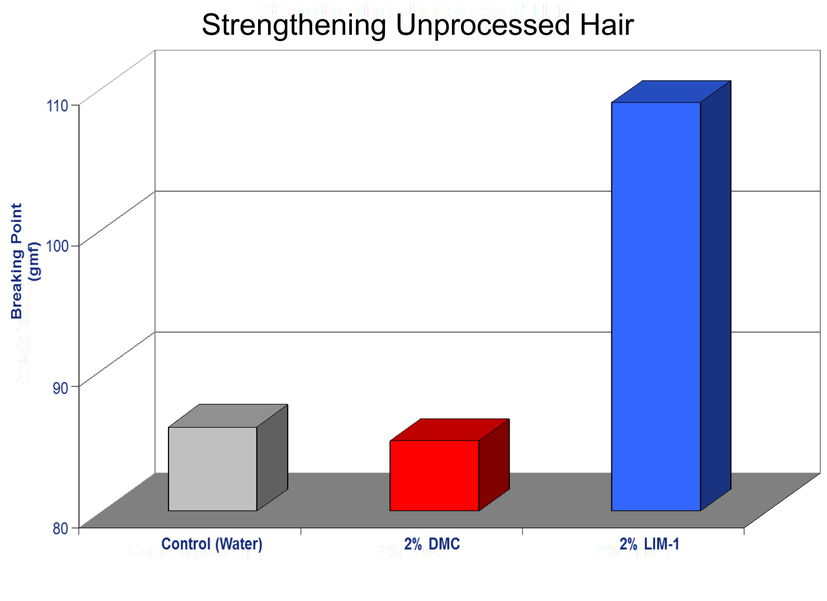
Unprocessed hair:

Unprocessed Caucasian hair swatches of equal weight were submerged in test/control solutions at 37o C for 10 minutes and then air-dried at room temperature. The “test” sample consisted of water with 2% FANCORSIL® LIM-1, while the controls were 2% PEG-8 Dimethicone (same material as that used to make FANCORSIL® LIM-1) as well as water.

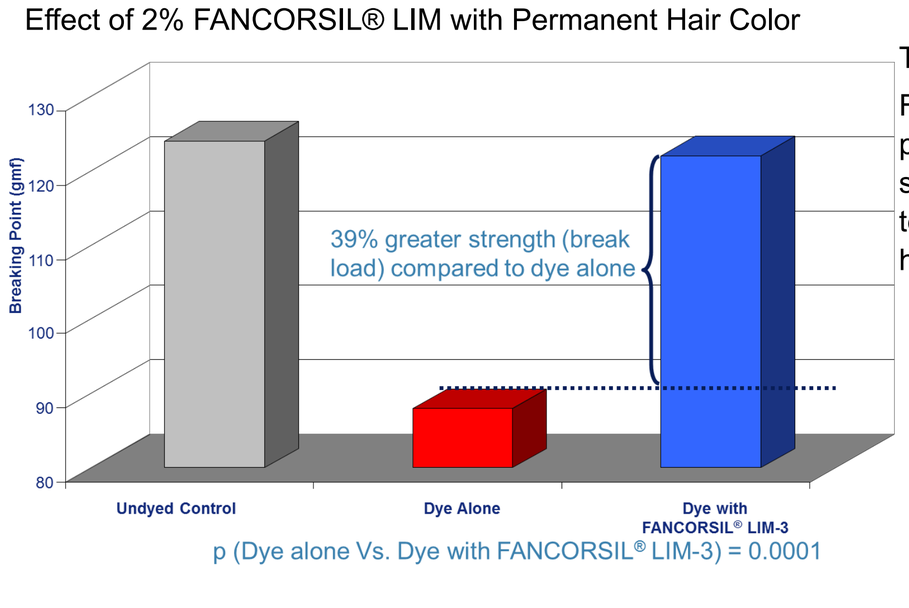
Individual fibers were randomly chosen from each swatch and tested for strength (break load) using an MTT Dia-Stron tensile tester and statistically analyzed for significance.

Processed hair:

In subsequent experiments the ability of FANCORSIL® LIM-3 to repair/strengthen hair was evaluated at 1% - 2% during the dying process with permanent hair color and FANCORSIL® LIM-3, at 1% or less, was evaluated for its ability to protect/strengthen hair during relaxation with sodium hydroxide. In both of these latter cases, measurements of tensile strength were made using the Dia-Stron apparatus.



The strength of unprocessed (“virgin” or “normal”) hair was increased by 27% after treatment with FANCORSIL® LIM-1 (2% in water) whereas treatment with PEG-8 Dimethicone (DMC = Dimethicone Copolyol) had no effect, negative or positive, upon hair strength.



The use of FANCORSIL® LIM with permanent hair color significantly increased tensile strength of the hair.

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