FANCORSIL® LIM

Naturally Derived Hair Conditioning and Repair

INTRODUCTION

The FANCORSIL LIM family of derivatives was designed to provide conditioning and repair to the hair. Because of its ability to penetrate the hair fiber, LIM is capable of improving the deposition and retention of hair color. After the application of LIM, fiber tensile strength is significantly increased.

The application of heat enhances the degree and extent of conditioning provided by these ingredients.

EFFICACY DATA

Penetration

Hair samples:

European blonde hair deliberately damaged by processing with permanent wave agents and permanent hair color.

Test materials:

FANCORSIL® LIM-2 (Dimethiconol Meadowfoamate) and a water control, both used at 1% in an emulsified leave-in conditioner. Test swatches were completely immersed in the leave-in conditioner for 5 minutes and subsequently air dried at room temperature or rapidly dried with the aid of a commercial blow drier.

Measurements:

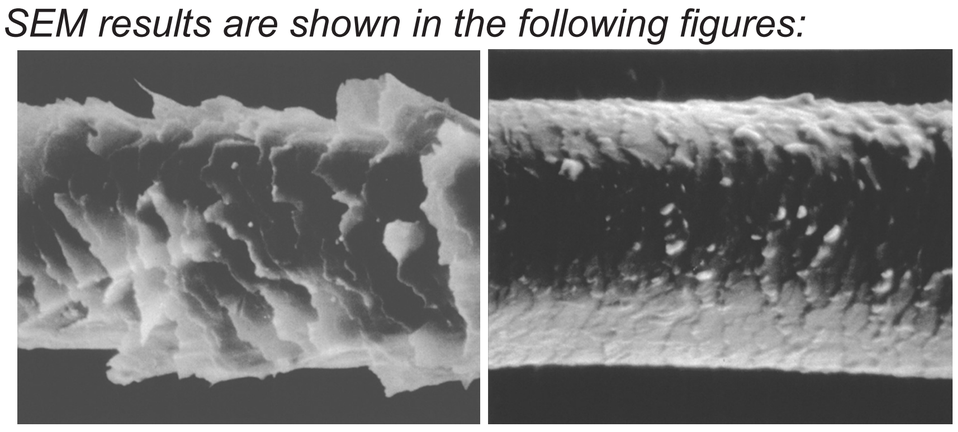
Scanning Electron Microscopy: Hair samples were mounted onto aluminum SEM holders using double-stick tape and colloidal graphite paint. The hair samples were then coated with a thin (about 20 nanometers) conductive film of gold-palladium in a vacuum evaporator. The samples were then examined and photographed using a Philips Model 500 scanning electron microscope.

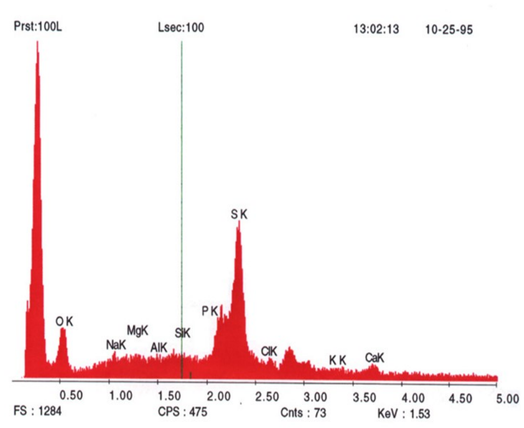
Elemental Microanalysis: Elemental composition was studied on thin sections using a Philips Model 711F EDAX microanalyzer (Energy Dispersive Analysis of X-Rays). The atom silicon (atomic number 14) is present in FANCORSIL® LIM-2 and, since there is no native silicone present in hair, it can be used as a marker for cuticle substantivity and penetration. The silicone atom, when bombarded with electrons, generates x-rays with a

1740 EV energy peak which shows up slightly to the left of the pronounced 2310 EV sulfur peak present in the hair sulfhydryl groups. Therefore, any detection of Si is clearly indicative of LIM and the location can be determined from the EDAX scan.

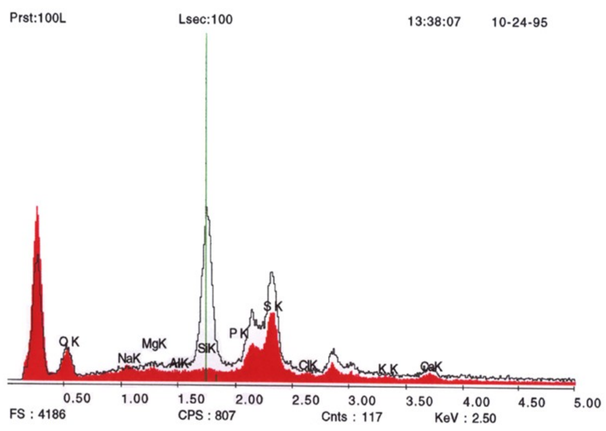
Results:

SEM results are shown in the following figures:

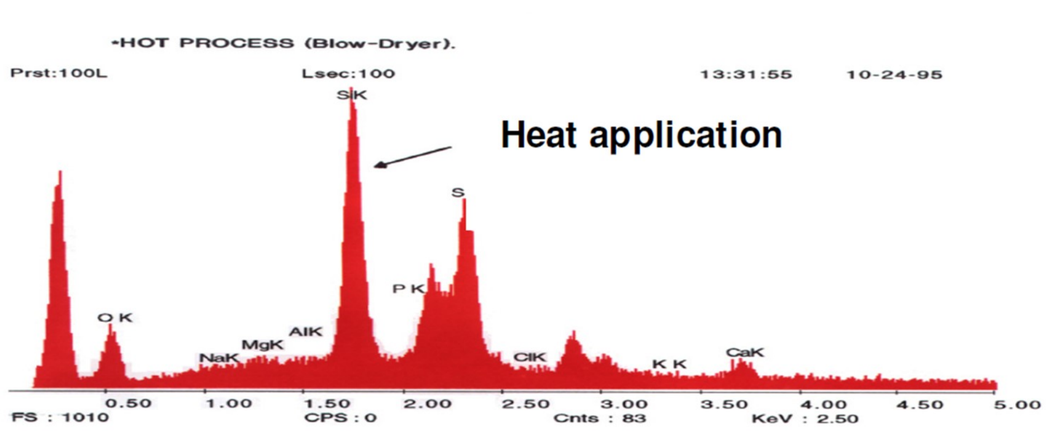




Control EDAX scan (no treatment)



Cuticle surface scan
(FANCORSIL® LIM-2 treatment)
Note: scan superimposed over control



Endocuticle/cortex scan
(FANCORSIL® LIM-2 treatment using heat from a conventional blow-drier)

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