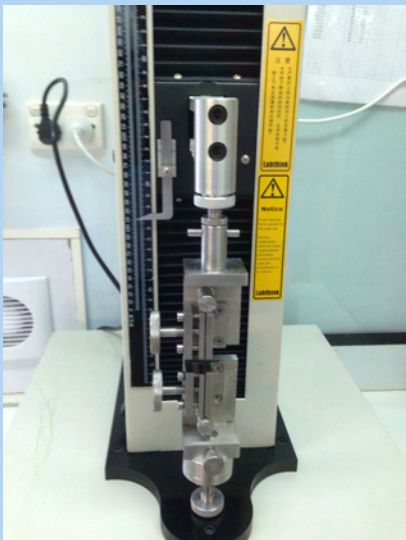




## STEPS



1. PRODUCT APPLICATION



2. HAIR TENSILE TESTER

# Hair Strength *In vitro* Test

Hair strength test to objectively assess the performance of a treatment program intended for application to the hair.

### Supportable Claims

Different products may be compared for their ability to improve hair fibre strength following treatment of hair.

The physical effects of the topically applied product are evaluated, utilising a tensile tester. The effects are evaluated immediately prior to application and at nominated points following product treatment. Baseline t=0 (untreated) hair with subsequent treatments applied to the same batch of hair swatches. Multiple products may be tested comparatively.

### Preparation

The hair swatch for treatment is divided into four even segments of approximately 3 cm width. Each swatch segment is washed in a solution of a test product at the client nominated dilution.

The treated swatch segments are rinsed in distilled water if required by customer. The swatch segments may be treated with distilled water alone and tested as control samples. An additional treatment e.g. with a conditioner, is then carried out if required.

If repeat cycle testing is required, the swatches are placed into a 25°C oven and allowed to dry overnight, then tested prior to the next treatment cycle if required.

The above cycles may be repeated as specified by the customer.

### Test Methodology

A Labthink Tensile Tester Model XLW(B) with a range of 0 to 50 Newtons is used to measure the hair strength. Hair fibres are randomly selected from each swatch and measured individually. The travel length of measurement is until the fibre ruptures. The tensile tester travel speed is set at 25 mm/min.

### Reporting of Results

The results obtained above represent the combing force, in Newtons, required to break the hair fibre.

The mean from each set of breakage measurements is determined for treated and untreated swatches.

Ref:

**Mercelot., V.** Application of a tensile-strength test to the evaluation of hydrating hair products  
*International Journal Of Cosmetic Science.* 20, 241-249 1998

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