



STEPS



1. PREPARATION



2. CONDITIONING CHAMBER



3. HAIR SWATCHES AFTER CHALLENGE

Hair Curl Retention

Measurement In Vitro

The test does not require the use of human volunteers

Supportable Claims

- Performance of hair fixatives.
- Strong hold.
- Holding ability over time.
- Application to wet or dry hair.

Principle

Hair swatches are treated with the test product.

Behaviour of the prepared and conditioned swatches is observed under controlled temperature and humidity.

Steps of the Test

Tresses are rinsed and dried.

A quantified amount of product is applied to each tress (in duplicate). The sample is worked thoroughly through the hair, which may be wet or dry as required.

Each tress is separately and tightly wrapped around a hair curler, so as to provide a spiral curl and clipped. The prepared curls are then placed in a calibrated humidity cabinet for conditioning. The humidity is set at 75% RH and the temperature at 25°C. It can be altered if necessary to suit specific claims. The clips are released and immediate drop length can then be measured.

At various time points, typically 2, 4 and 7 hrs, the length of the hair tresses are remeasured in order to determine product performance over time.

Reporting

3.1 The readings are converted to percent curl retention by using the following calculation:

% Curl Retention =
 (Length of Uncurled Hair Tress) -
 Reading at time point / (Length of
 uncurled hair Tress - initial reading
 100% = fully retained curl
 0% = fully extended.
 % Curl extension = 100 - % Curl
 Retention.

Results can be ranked.
 Initial curl length can be separately assessed.

Product Types in the Market

Personal care hair curl retainers sold at retail or in the professional market may be based on waxes or resins, or a combination of both.

Additional claims made include texturing, matt or gloss appearance, non-greasy, non-hardening, easy wash out, non-sticky

References

1. Set Relaxation of human hair

Diaz, P., Wong Y.

Journal of Cosmetic Chemistry 34
 205-212 July 1983

2. Polymer Properties Influencing Curl Retention at High Humidity

Micchelli, B., Koehler B. Journal
 of Cosmetic Chemists 19, 863-880
 Dec 1968.

Eurofins Dermatest Pty Ltd
 20 - 22 King St
 Rockdale NSW Australia
 ph 61 2 9556 2601
info@dermatest.com.au
www.dermatest.com.au