

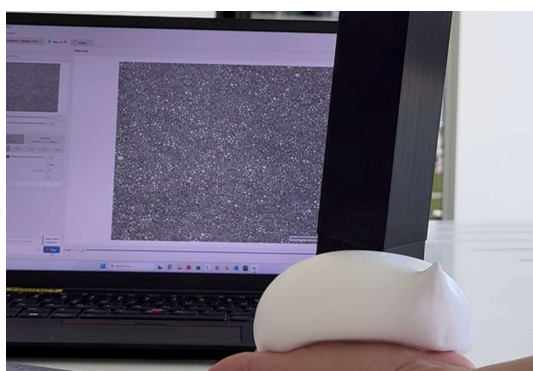
Hair Styling Foam Analysis

Objective

Characterize the initial structure and short-term evolution of a styling mousse designed to provide a soft texture and easy distribution through the hair.

Measurement

The hair styling foam is dispensed directly from the can onto the hand. FOAMSCOPE™ is positioned above the foam to characterize its structure immediately after full expansion and monitor its short-term evolution.



Sample	Hair styling Foam
Camera settings	Exposure: 4.30ms - Gain: 0dB
Capture settings	Frequency: 5fps - Time: 30sec

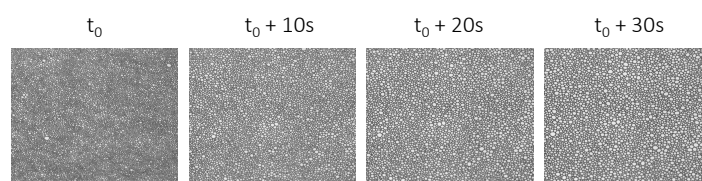
Key analysis parameters

FOAMSCOPE metric	Information provided
Bubble count	Bubble population and evolution of the fine foam structure
Mean bubble area	Average bubble size and evolution of the foam structure
Liquid fraction	Evolution of the liquid content within the foam structure
PDI	Bubble size uniformity and structural heterogeneity

Structural breakdown kinetics can be compared between formulations and correlated with ease of distribution through the hair.

Note: this sheet is designed as an application illustration, not as a scientific validation study.

Foam structure images capture



t₀ — Initial foam structure

Very fine and densely packed bubble structure.

t₀ + 10 s — Early evolution

Fine bubble structure is maintained, with initial bubble growth.

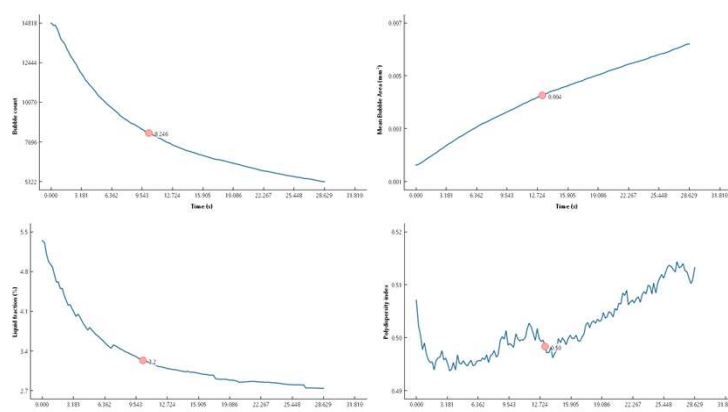
t₀ + 20 s — Structural evolution

Progressive increase in bubble size and reduction of the fine bubble population.

t₀ + 30 s — Foam breakdown

Larger bubbles become more prominent as the initial fine structure progressively disappears

Foam structure analysis



Bubble Count ↓

Progressive loss of the initial fine bubble population.

Mean Bubble Area ↑

Progressive increase in average bubble size

Liquid Fraction ↓

Rapid evolution of the liquid content during the first seconds after dispensing.

PDI ↓ then ↑

Initial homogenization followed by increasing bubble size heterogeneity during foam breakdown.

FOAMSCOPE™ quantifies the rapid structural evolution of hair styling foam from dispensing to application. These structural parameters can be correlated with sensory properties such as foam texture and ease of distribution through the hair.