

Dispenser Foam Analysis

Objective

Evaluate the performance of a foam dispenser/formulation combination through the initial foam structure, bubble size distribution and short-term foam stability.

Measurement

Foam generated by the dispenser is deposited directly onto the FOAMSCOPE™ to characterize the initial foam structure and monitor its evolution over 60 s.



Sample	Foam Dispenser
Camera settings	Exposure: 4.30ms - Gain: 0dB
Capture settings	Frequency: 1fps - Time: 60sec

Key analysis parameters

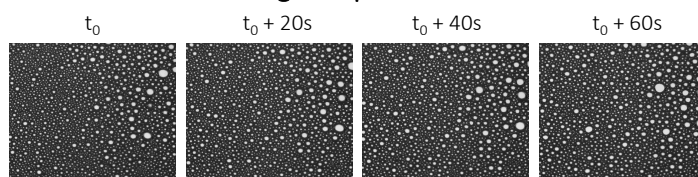
FOAMSCOPE metric	Information provided
Bubble count	Foam fineness and evolution of the bubble population
D50	Characteristic bubble size and its evolution over time
PDI	Bubble size uniformity and structural homogeneity
Liquid fraction	Evolution of the liquid content within the foam

t_0 = performance of the dispenser/formulation combination

Δt = stability of the generated foam

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

Foam structure images capture



t_0 — Initial foam structure

High population of small, relatively uniform bubbles.

$t_0 + 20$ s — Early evolution

Fine bubble structure is largely maintained, with initial growth of some bubbles.

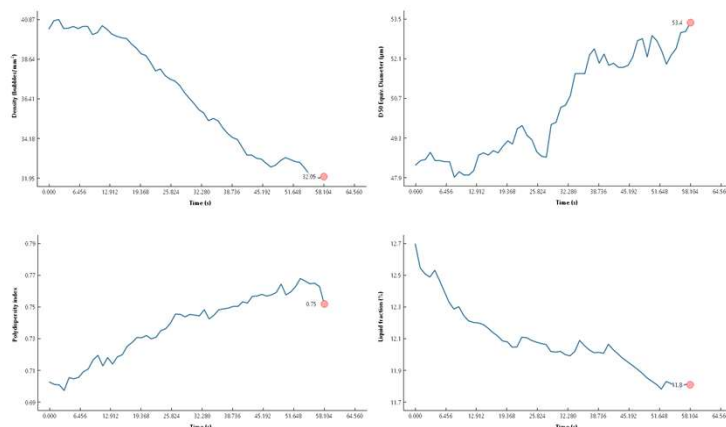
$t_0 + 40$ s — Coarsening

Small bubbles progressively disappear while larger bubbles develop.

$t_0 + 60$ s — Structural evolution

Lower bubble population and broader bubble size distribution.

Foam structure analysis



Bubble Count ↓

Loss of the initial fine bubble population.

D50 ↑

progressive shift of the bubble population toward larger sizes.

PDI ↑

Broadening of the bubble size distribution and loss of structural homogeneity.

Liquid Fraction ↓

Progressive decrease in the liquid content of the observed foam structure.

At t_0 , Bubble Count + D50 + PDI + Liquid Fraction characterize the Initial foam quality.

Over time, Bubble Count ↓ + D50 ↑ + PDI ↑ + Liquid Fraction ↓ characterize the Short-term structural stability