

SURFACE-READINESS TESTING · COMPARISON GUIDE

Dyne Pens vs. Contact Angle: Which Test Holds Up in an Audit?

Dyne pens and manual goniometers solve the same problem two different ways: telling you whether a surface is ready for coating, printing, or bonding. One gives a threshold-based judgment call. The other gives a traceable number. Here's how they compare on the dimensions that matter once a customer, an auditor, or a failure investigation asks you to defend the reading.

Attribute	Dyne Pens / Test Inks	Quantified Contact Angle
What you get	Pass/fail at a threshold dyne level (e.g. "38 dyne surface")	A continuous numeric value in degrees, traceable to a method
How the call is made	Visual: does the ink bead, or sheet out, within ~2 seconds	Automated droplet-edge detection (ML-assisted), not eyeballed
Operator dependency	High — timing, angle of view, and ink application technique all shift the call	Low — same captured image, same fitting method, every time
Record for audits	A checkmark on a traveler; no image, no raw value behind it	Timestamped reading and image, exportable as QC documentation
Drift over time	Ink oxidizes and degrades with age and air exposure, shifting the threshold	No consumable to age — resolution stated to 0.01°
Best fit	Fast go/no-go floor check when a rough threshold is all that's needed	In-process QC data you can hand to a partner, an auditor, or a CAR investigation

The trap either method can fall into

A subjective pass/fail — whether it comes from a dyne pen or a manually-read goniometer — isn't something you can put a number on, defend line-by-line in an audit, or reproduce exactly six months later with a different operator or a different pen. A quantified contact angle reading replaces the judgment call with a value you can trace back to a method, an instrument, and a timestamp.

See the same comparison run on your own samples

Ship us a set of parts — we'll return quantified contact angle values you can put next to your current dyne-pen or manual-goniometer readings. · Book 15 minutes with Abhimanyu Bhandankar, CEO:
calendar.app.google/xj3TbATtSQoiSWyJ6