ENGINEERED
PRINTING SOLUTIONS

Beyond Offset.

INTRODUCING

XD-AQ

High density. Crisp text. Porous substrates. **Safely.**

For the first time, inkjet reaches analog-like density and sharp type on natural fiber — using high-viscosity water-based ink. The XD-AQ prints full-color graphics, small copy and codes directly on molded fiber and die-cut packaging.



XD-AQ · DESIGNED AND BUILT IN VERMONT

720	CMYK	5.4″ 137 mm	164 50 m/min
DPI RESOLUTION	PROCESS COLORS	PRINT WIDTH	FT / MIN

THE INK

More color stays **on the surface.**

Standard low-viscosity inkjet ink wicks into open fiber — the pigment ends up below the surface, so color washes out and edges go soft. High-viscosity water-based ink holds out on the fiber, where the pigment reflects light.



STANDARD LOW-VISCOSITY INK

Sinks in.

Washed-out color, soft detail.



XD-AQ HIGH-VISCOSITY INK

Stays on top.

Dense color, sharp detail.

Up to 67%†

higher color density than low-viscosity inkjet, on coated board

Nestlé compliant*

Guidance Note on Packaging Inks; Swiss Ordinance; EuPIA GMP

PFAS-free inks*

water-based — no photoinitiators, no monomers, nothing to cure



CRISP TEXT

3 pt type on molded fiber.

A straight crop of a photo of a printed clamshell — not enhanced or sharpened. Small copy, nutritional information, allergen text and codes stay sharp on fiber.

TWO MARKETS · ONE MACHINE

Print directly on **die-cut and molded packaging.**

1 MOLDED FIBER — PRINTED FOR THE FIRST TIME





XD-AQ

Full-color brand, copy and codes printed directly on the formed part. No label, one material.

2 PRE-DIE-CUT — CUT FIRST, PRINT ON ORDER





XD-AQ

Hold a few standard blanks. Print graphics and variable data when the order arrives.

WHY THE XD-AQ

Every other way to decorate fiber **gives something up.**

	Analog FLEXO · LITHO · SCREEN	Aqueous inkjet STANDARD LOW VISCOSITY	UV inkjet ENERGY CURE	Labeling PRINTED LABEL APPLIED	**XD-AQ** HIGH-VISCOSITY AQUEOUS
Abrasive surface rough, loose fiber	BREAKS HERE Abrasive fiber wears contact tooling	— non-contact	— non-contact	BREAKS HERE Rough surface — uneven label adhesion	✓ Nothing touches the part
Open, thirsty fiber unsealed and absorbent	— viscous ink, laid on	BREAKS HERE Ink wicks in — washed-out, low-density print	— ink builds on the surface	— prints on the label, not the fiber	✓ Viscosity holds it out — full density
Indirect food contact porous fiber, no barrier layer	— compliant ink sets exist	— water-based, no cure step	BREAKS HERE Cure is line-of-sight — ink below the surface cannot be verified cured in-line	— compliant label stocks exist	✓ Water-based, nothing to cure — compliant inks*
Short runs, many SKUs seasonal and versioned	BREAKS HERE New plates and make-ready per version	— no plates, run of one	— no plates, run of one	— digital labels handle short runs	✓ No plates, run of one
Nothing added to the pack mono-material, PPWR-graded	— ink on fiber, one material	— ink on fiber, one material	— ink on fiber, one material	BREAKS HERE Second material, adhesive and liner waste	✓ Ink on the fiber — one material

The XD-AQ is the first option with nothing left on that list. Non-contact. High-viscosity water-based ink that holds out on natural fiber. Nothing to cure. Nothing added to the pack. Comparison scoped to absorbent, uncoated fiber.

SPECIFICATIONS

PRINT WIDTH / SPEED	5.4 in (137 mm) per pass, part length unlimited · 164 ft/min (50 m/min)
RESOLUTION	720 dpi, single pass, grayscale · CMYK, 8 heads (2 per color)
PART HEIGHT	Up to 10 in (254 mm) — formed parts, cases, glued cartons
INK	High-viscosity water-based pigment, recirculating
SUBSTRATES	Molded fiber, bagasse, kraft, SBS, CCNB, coated liner, corrugated
PRETREATMENT	None — no primer, precoat or bonding agent
INK COMPLIANCE	Nestlé Guidance Note on Packaging Inks (April 2024) and Swiss Ordinance SR 817.023.21 compliant. EuPIA GMP, non-food-contact surfaces. PFAS-free.*
SOFTWARE	Open RIP architecture — works with the RIP and color workflow you already use · variable data and codes
TRANSPORT	24 in belt width and 16 ft conveyor length standard — both customizable · product detect
OPTIONS	Denesting and automatic loading · robotic load / unload · stacking · 100% vision inspection with reject · in-line coder · line integration
LIST PRICE	US $345,000 / from €299,000

MORE APPLICATIONS



EGG CARTON



CLAMSHELL



CUP SLEEVES



BEVERAGE CARRIER



FOLDING CARTON

Custom engines

Wider print zones, more colors or printing inline on your line — EPS designs and builds custom engines and cells around your part.

Plastic, metal or glass? EPS UV inkjet and pad printing systems cover those too.

* Ink compliance statements are based on intentionally added substances, per the ink manufacturer of record. PFAS-free per the ink manufacturer of record. Not a direct or indirect food additive. Suitability for any specific food-packaging application is determined by the end user. Full Statement of Regulatory Compliance available on request.

† Density: up to 67% higher color density measured on coated white corrugated liner, versus a standard low-viscosity inkjet ink — Swansea University, published in the Journal of Coatings Technology and Research. Uncoated brown liner measured 6.5–13.6% in the same work. Specifications subject to change without notice.

NEXT STEP

Send us your part.

We print it on the XD-AQ and send it back, so you can judge density, small copy and codes on your own substrate.

ENGINEERED PRINTING SOLUTIONS

epsvt.com/xd-aq

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SCAN FOR XD-AQ