



INNOVATIVE INK TECHNOLOGY

TECHNICAL DATA SHEET

Version 1.0 | April 2026

Red Water-Based

Water-based pigment formulation for construction layout printing

1. PRODUCT IDENTIFICATION

Product Name:	Red Water-Based
Product Type:	Water-based pigment ink
Manufacturer:	Innovative Ink Technology
Date of Issue / Revision:	April 2026 (Version 1.0)
Intended Use:	Ink formulated for construction layout printing via automated and manual application methods on jobsite surfaces, including concrete, plywood (HDO/MDO), steel, and other common construction substrates.
SDS Reference:	Refer to the Safety Data Sheet (SDS) for all hazard, handling, and regulatory information.

2. PRODUCT DESCRIPTION

This ink is a water-based, pigment formulation designed specifically for construction layout applications using automated printing systems such as the Dusty FieldPrinter. It is engineered to deliver high-visibility, durable markings on a variety of jobsite substrates, including concrete, plywood (HDO/MDO), and steel.

The formulation balances adhesion, drying performance, and mark clarity to perform reliably in typical construction environments including dusty, variable, and high-traffic conditions. It is optimized for consistent output through controlled application systems, ensuring accurate communication of design intent from digital models to the field.

3. PERFORMANCE CHARACTERISTICS

Opacity / Visibility	High contrast black pigment for clear visibility on light substrates	Adhesion to Surfaces	Contains pigment dispersion with solvent carriers and surfactant system which help adhesion, drying behavior, and surface wetting.
Dry Time	Fast drying; typically dries to touch within minutes depending on temperature, airflow, and substrate.	UV / Light Stability	Moderate; prolonged UV exposure may cause gradual fading
Abrasion Resistance	Moderate to high; suitable for construction traffic conditions	Transfer Behaviour	May transfer to adjacent surfaces (e.g., concrete from formwork) depending on substrate and moisture conditions.
Smear Resistance	Good after initial dry; susceptible before full cure		

4. ERASABILITY / REMOVABILITY

Removal Methods:	Testing has shown that water-based ink can typically be removed using Dawn and water or off the shelf cleaners like Zep degreaser, though results may vary depending on surface conditions, dwell time, and exposure. Ink exposed to direct sunlight (UV) may break down faster. It may last up to 2 months in direct sunlight on most surfaces and even longer indoors.
Ghosting / Residue:	Possible on porous or coated surfaces.
Cleaning Agents Required:	Mild detergent, water, or cleaning concentrate depending on substrate.
Surface Finish Impact:	May affect sensitive finishes. Test on a small area before full application.

5. LIMITATIONS

Condition	Impact
Wet or high-moisture substrates	Performance decreases
Oily, waxed, or coated surfaces	Performance decreases
Highly porous surfaces	Bleeding may increase
Extreme temperatures / high humidity	Adversely affects drying, adhesion, and longevity

6. APPLICATION GUIDELINES

Compatible Equipment:	Dusty FieldPrinter; inkjet-based marking systems; compatible handheld devices
Recommended Print Parameters:	Typical firing parameters ~12V pulse. Flow rate and speed dependent on system calibration.
Surface Preparation:	Clean, dry, and free of dust, oil, and debris.

Application Conditions

Temperature Range

-1°C – 32°C (30°F – 90°F)

Humidity Range

>30% RH recommended

7. ENVIRONMENTAL & JOBSITE CONSIDERATIONS

Performance in Moist Conditions:	Slight feathering of the ink could occur.
Behavior on Treated Surfaces:	Recommended for untreated surfaces without oil, wax, or coatings.
Indoor / Outdoor Use:	Works well on both indoor and outdoor use cases.
Durability Under Foot Traffic / Equipment:	Durable under foot traffic. For best longevity results, apply a clear coat.

8. CURING / DRYING INFORMATION

Stage	Time
Dry to Touch	Less than 30 seconds
Full Cure	Less than 5 minutes

Factors Affecting Dry Time: Surface should be clean and dry; surface porosity may influence absorption rate and drying time.

9. STORAGE CONDITIONS

Storage Temperature:	-10°C – 54°C (14°F – 130°F)
Storage Environment:	Sealed containers in a dry, ventilated environment. Avoid freezing.
Shelf Life:	12 months from manufacturing date.
Avoid:	Do not store ink cartridges in enclosed spaces exposed to heat or direct sunlight (e.g., gang boxes, vehicles). Temperatures exceeding safe limits may cause cartridge failure.

10. SHIPPING & HANDLING

Packaging:	Single cartridge per unit.
Recommended Shipping Temperature:	Greater than 0°C (32°F)
Handling:	Handle with care to avoid physical damage to cartridge. Keep away from heat sources and direct sunlight during transit.

11. CONTACT INFORMATION

Manufacturer / Supplier	Dusty Robotics Customer Support
Innovative Ink Technology sales@innovativeink.com	support@dustyrobotics.com For product installation and field support queries.

DISCLAIMER

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Innovative Ink Technology | Red Water-Based Ink 1" Cartridge | TDS Version 1.0 | April 2026 | Refer to SDS for full safety information