

## TECHNICAL SERVICE BULLETIN

### Water-Based Striping Inks T5-Series

#### Capillary (Needle) Application

#### 1. INTRODUCTION:

The transition from solvent-based products to water-based products is not a direct offset process or direct replacement. This bulletin is to enhance the product change-over process. This also covers maintenance procedures that will add to an easy transition. A regular maintenance schedule must be established when implementing water-based inks.

Implementing these steps will eliminate aches and pains of a long learning curve. Utilizing this information in operator training programs will also help in the transition process. Most important is understanding that the change to water-based products is a work culture and product process change that needs to be harmonized early to avoid repeating errors and eliminating trial and error approaches for implementation of water-based products. A regular maintenance schedule must be established when implementing water-based inks.

#### 2. T5- SERIES INK:

T5-series inks have been developed and manufactured with an optimum viscosity for flow. Ink is delivered at the most effective viscosity to pass through a pressurized capillary system. The ink is packaged in various size bottle/pail/drum containers.

#### 3. APPLICATION:

a. Capillary System (Needle Application) \*\*see the additional application equipment information

#### 4. USE:

- a. Thoroughly mix the container for a minimum of 5 minutes prior to use, check for sediment on bottom of container after mixing. If sediment is present after mixing, continue to mix until all of the sediment from the bottom is incorporated.
- b. Inspect lines, pressure vessel, and needles for foreign materials or dried ink that can clog the line. Be sure system is clean and free of foreign material
- c. Remove lid from container; be careful not to allow foreign material to enter the container when opening.
- d. Place container or pour contents into pressure vessel reservoir.
- e. Ink, once placed in pressurized vessel, should be under constant light agitation. High or fast agitation can cause foaming or air bubbles. These bubbles or foam can dry and cause development of dry flakes in the ink causing clogs in the lines and needles.
- f. Place needle assembly above material to be marked. Be sure assembly is oriented in proper direction and angle.
- g. Be sure that the needle assembly is touching surface with only very light force to mark the surface without any skips. Needle must touch surface for constant flow and stripe to occur. Too much pressure can cause scoring of soft surfaces. Too heavy of an application can cause slower drying.
- h. Be sure that only enough air pressure is used to cause a drop to fall every second or so when needle is not in contact with the moving surface to be marked. Adjust flow for finest, smallest line to be created.
- i. Adjust needle size and pressure for stripe size and flow. Needle size selection is determined by size of stripe desired, coarseness and softness of surface and distance applied ink travels before coming into contact with water or rollers (dry time). Temperature of surface will influence dry times. It is recommended that the ink be applied as close to extruder as physically possible. After ink is applied, fans can be used to facilitate drying if needed.

(Following these steps will allow for smoother service and cleaner lines with little trouble.  
Some procedures could be modified to meet line process needs.)



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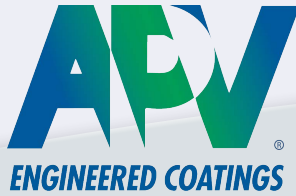
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#### 5. CAUTIONS:

- a. Store unused ink in a cool area out of direct sunlight, storage temperature is not to exceed 100 F, failure to do so can result in shortened shelf life and extended mixing times.
- b. Do not mix solvent-based inks or other brand inks with the T5 series inks.
- c. Do not add any liquid to ink; this product has been formulated manufactured and delivered ready to use.
- d. Thoroughly mix container for a minimum of five minutes prior to use, check the bottom of the container to ensure no sediment is left unmixed. Continue mixing bottle until no sediment is left. Failure to mix well can result in slower dry time, weak color, line clogs and pour adhesion.
- e. Do not try to re-solvate water-based inks with solvent or water once the ink has dried. It cannot be removed or solvated.
- f. On initial start up, begin use of water-based T5-series inks with new Teflon tubing and needles. Very small amounts of solvents or solvent-based inks can cause the water-based inks to become seedy or gel and then will clog the lines or cause inconsistent flow rate.
- g. It is recommended that the ink be applied as close to extruder as physically possible.
- h. Distance from pressure vessel to needle is to be kept at an absolute minimum distance possible.
- i. Teflon lines are recommended for flow lines.
- j. No sharp angles or edges should be in the line. Use only one size line from pressure vessel to needle. Keep all the lines consistent in size and length.
- k. Slow stirring is recommended after ink is placed in pressure vessel.

NOTE: The information and data given herein are based upon tests and reports considered reliable and are believed to be accurate. However, due to varied application and handling methods, no guarantee of duplicate performance, expressed or implied, is made.



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### *Application Equipment Information*

#### **Needle Style Striping- Preventative Maintenance T5-Series**

3 regular maintenance schedule of this equipment must be developed and implemented. Amount of use and ambient environment will dictate service periods. Type of maintenance depends on system setup. Some general items and procedures are listed below.

1. Ink must be thoroughly mixed before ink is transferred to the application equipment. Mix the container for a minimum of 5 minutes prior to use.
2. Ink must remain covered at all times or sealed in the pressure system.
3. Special attention should be given to the refilling process, any additional ink that is spilled on the tank sides or on the rim of the tank should be wiped off. This can cause contamination issues with dried paint falling back into the ink plugging up the system.
4. Agitators should be set to run at the lowest practical RPM as to not generate foaming of the ink.
5. Ink that has not flowed within a 2-hour period should be flushed from the fluid lines & needles.
6. Tank liners should be checked, cleaned or replaced on a regular basis to prevent contamination. (Recommend changing tank liner at least once a month or sooner in heavier used applications.)
7. Agitator shaft, paddle, & fluid tube should be cleaned from all ink build up at least once a month or sooner in heavier used applications.
8. Left over ink from a Preventive Maintenance cleaning can be filtered through a 150 micron bag or a 100 mesh filter screen to optimize the inks performance.
9. Any in line fluid strainers should be cleaned or replaced on a regular basis (Recommend every 2 weeks or sooner) in heavier use ink applications.
10. All needles while not in use should be submerged in water to keep any leftover ink residue from drying out.
11. All wetted components of the application equipment should remain wet either with ink or with water when not in use. This will help prevent any ink from drying out in the system.
12. Ink that is applied at higher than normal pressures to keep the ink flowing is usually attributed to clogged fluid filters, contaminated ink, or material build up in fittings and connections that have not been properly flushed.

