

## Eco Solvent Inkjet Printing with TrafficJet™ Printers

Instructional Bulletin #8.61

Released: September 2014

### Description:

Avery Dennison, in partnership with Mutoh, has developed the Avery Dennison TrafficJet™1638 print system, a new durable digital inkjet printing solution for work zone and traffic sign applications. The combination of Avery Dennison retroreflective sheeting and digital inks with the Mutoh EcoSolvent inkjet printers offers the industry with an economical solution to manufacture permanent traffic and temporary work zone signs.

The TrafficJet™1638 print system is based on Mutoh's reliable ValueJet platform and uses specially formulated eco solvent spot color inks. With the combination of these printers and spot color inks it is possible to digitally print all Avery Dennison T-series and W-series prismatic retroreflective sheetings with the performance and durability required for producing work zone sign legend.

The TrafficJet™ printers are available in the following configuration:

- TrafficJet™ 1638 – 8 Color, 64 inch wide printing capability

Major advantages of this system include:

- An economical solution with low start-up and production costs compared to other digital printing systems
- Reduced sign fabrication costs by eliminating transfer films, and associated labor to cut, weed, and apply graphics
- Fast turn around time from sign design to production
- Custom imaging flexibility – short run, multi-color logos and signs can be produced efficiently
- Typical Print Speeds for Traffic Signs of 100 square feet per hour

### Construction:

<b>Retroreflective Films:</b>	T-6000 Series T-7000 Series T-9000 OmniView Series T-11000 OmniCube Series WR-6100 Reboundable Series* WR-7100 Reboundable Series*
<b>Ink:</b>	Avery Dennison TrafficJet™ Eco Solvent Black, Green, Red and Blue Ink
<b>Overlay Film:</b>	OL-1000 or OL-2000 Series Films

\*WR-6100 and WR-7100 Reboundable Series products require the Heavy Duty Take Up & Feed accessory due to the roll weight.

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Reflective Solutions

7542 North Natchez Ave.

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[www.reflectives.averydennison.com](http://www.reflectives.averydennison.com)



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### Eco Solvent Ink:

Color	Product Name	Available in
Black	TrafficJet™ Black TJ03	440 ml and 950 ml
Blue	TrafficJet™ Blue TJ05	440 ml and 950 ml
Green	TrafficJet™ Green TJ07	440 ml and 950 ml
Red	TrafficJet™ Red TJ08	440 ml and 950 ml

### Physical Properties:

<b>Operating Temperature Range</b>	68°F (20°C) to 89°F (32°C)
<b>Operating Humidity Range</b>	40% to 60% R.H.
<b>Shelf Life</b>	Sheeting and overlay films have a one-year shelf life, from the date of delivery, when stored at the following temperature and conditions: 65° - 75°F (18° - 24°C) and 50% ± 5% R.H. Ink has one-years shelf life from the date printed on the ink cartridge when stored at these conditions
<b>Other Tests:</b>	Meets all other requirements set forth in ASTM D 4956 and EN-12899 including Shrinkage, Flexibility, Liner removal, Adhesion, Impact resistance, Specular gloss and Outdoor weathering.

### Other Specifications:

Consult your Avery Dennison Representative for information concerning compliance with additional world-wide specifications.

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### Integrated Component System (ICS) Warranty Performance:

Avery Dennison TrafficJet™ ink is the only ink guaranteed to meet the reflectivity, color, and durability requirements for traffic/permanent applications and work zone control devices when applied to Avery Dennison retroreflective sheetings<sup>A</sup>. The digital inks referenced in this document are the only inks covered by the ICS warranty. Users may find satisfactory results with other inks and inkjet systems, but warranty coverage is not provided by Avery Dennison. Reference the retroreflective sheeting product data bulletin for the series of base sheeting being used.

### Warranted Outdoor Durability for TrafficJet™ TJ03 Black Ink without overlay for Work Zone Applications:

<i>Series<sup>B</sup></i>	<i>Years</i>
<i>W-6000</i>	<i>3</i>
<i>W-7000</i>	<i>3</i>
<i>W-9000</i>	<i>3</i>
<i>W-11000</i>	<i>3</i>
<i>WR-6100</i>	<i>3</i>
<i>WR-7100</i>	<i>3</i>

### Warranted Outdoor Durability for Permanent signs Printed with TrafficJet™ TJ03 Black, TJ07 Green & TJ05 Blue ink with OL-1000/OL-2000 Overlay:

<i>Series<sup>B</sup></i>	<i>Years</i>
<i>T-6000</i>	<i>10</i>
<i>T-7000</i>	<i>10</i>
<i>T-9000</i>	<i>12</i>
<i>T-11000</i>	<i>12</i>

<sup>A</sup>ASTM D-4956 does not specifically address the requirements of inks and overlay films. Many government agencies have a requirement that inks and overlay films used in sign production meet 70% of the reflectivity level of the manufactured colored sheeting. All digital inks, overlay films, and screen print inks approved for application to Avery Dennison retroreflective sheetings are formulated to comply with this requirement..

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### Process Guidelines :

The recommended procedure to apply and convert the sign is as follows :

1. Print the sign on the Avery Dennison sheeting using the recommended print settings and print speed.
2. If the signs have been printed continuously in a roll form, it is recommended to relieve the tension in the rolls and store vertically. This is to ensure that all the potential solvent left in the printed roll is completely removed.
3. If the sign is a Construction Work Zone sign with a 3 year warranty, no OL-2000 / OL-1000 application is required when printed with TrafficJet™ Black TJ03.
4. If this is a permanent sign requiring a 10-12 year warranty, an OL-2000 / OL-1000 overlamination is required to ensure color durability and reflectivity. Overlay lamination must be performed on a laminator.
5. It is recommended to let the printed sheeting sit at room temperature [68°F (20°C) to 89°F (32°C)] for 24 hours before the OL-2000 / OL-1000 is applied to completely ensure that all solvents are completely removed before the overlay is applied

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### Application & Conversion Information:

The following Avery Dennison literature will provide information to the user for proper application, storage, and other requirements. Find the latest information on the Avery Dennison website, [www.reflectives.averydennison.com](http://www.reflectives.averydennison.com). We encourage you to check our website periodically for updates.

<b>Instructional Bulletins:</b>	
Sheeting Care & Handling	#8.00
Substrate Requirements	#8.01
Application Techniques PS Sheeting	#8.10
Steel Rule Die-Cutting	#8.20
Thermal Die Cutting	#8.20
Sign Cutting	#8.25

An additional instructional manual and printing guide is supplied by Avery Dennison with the TrafficJet™ 1638 printer system which outlines setup and operating instructions. On-site installation will be done by an Avery Dennison service technician upon arrival of printer shipment. Please contact your Avery Dennison Sales and/or Technical representative for additional assistance with system settings, and be sure to follow the manufacturer's recommendations for machine operation. Any deviation from the manufacturer's recommendations may void Mutoh and Avery Dennison ICS warranty.

The TrafficJet™1638 inkjet digital printer must be operated in a clean, enclosed, well-ventilated room away from high traffic. This will help prevent dust and debris from damaging the print heads, and keep contaminants off of the sheeting surface before printing. It is advisable to use the automatic take-up system for longer printing jobs.

### Maintenance

Please refer to *IB #8.62 - TrafficJet 1638 Printer Maintenance* for details.

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### Finished Sign Mounting & Orientation:

As with all Avery Dennison retroreflective sheetings, uniquely designed omni-directional prisms eliminate the need for datum marks to reference when cutting sign legend or orienting sheeting on the substrate. Users will experience uniform retroreflective appearance regardless of orientation on the substrate.

The above Avery Dennison literature provides information to the user for proper application, storage, and other requirements. Please refer to Product Data Bulletins or your local Avery Dennison Representative for warranty information. Find the latest information on the Avery Dennison website, [www.reflectives.averydennison.com](http://www.reflectives.averydennison.com). We encourage you to check our website periodically for updates.

All statements, technical information and recommendations about Avery Dennison products are based upon tests and information believed to be reliable but do not constitute a guarantee or warranty of any kind. All Avery Dennison products are sold with the understanding that Purchaser has independently determined the suitability of such products for its intended and other purposes.