



TrafficJet™ Print System

Description:

The TrafficJet 1638 and 1324 print systems are based on Mutoh's reliable ValueJet platform and use specially formulated TrafficJet eco solvent spot color inks distinctly manufactured and supplied to meet standard traffic colors. With the combination of these printers and spot color inks it is possible to digitally print Avery Dennison T-series and W-series prismatic retroreflective sheetings.

The TrafficJet 1638 can also be configured to print one of two ways: it can be set up to print spot colors only, giving the printer capability to print all of the available TrafficJet spot colors. Or, it can be configured with the ability to print the Mutoh CMYK process colors in addition to four of the available TrafficJet spot colors, allowing the printer to simultaneously print graphical images and durable traffic colors.

TrafficJet printers are available in the following configuration:

- TrafficJet 1638 – 8 Color, 64 inch wide, traffic spot colors only
- TrafficJet 1638 – 8 Color, 64 inch wide, 4 traffic spot colors plus CMYK
- TrafficJet 1324 – 4 Color, 54 inch wide printing capability

Major advantages of this system include:

- Low start-up and production costs compared to other digital printing systems
- An automated system that adds capabilities and capacity
- Reduced sign fabrication scrap and 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 sqft/hr for TrafficJet 1638 and 75 sqft/hr for TrafficJet 1324
- Simultaneous printing of CMYK and durable traffic colors - TrafficJet 1638 only

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Sign Construction:

Retroreflective Films:	T-1500D Series T-2500 Series T-6000 Series T-7000 Series T-9000 OmniView Series T-11000 OmniCube Series WR-6100 Reboundable Series WR-7100 Reboundable Series
Ink:	Avery Dennison TrafficJet eco solvent spot color inks. Mutoh eco solvent Ultra CMYK process color inks.
Overlay Film:	OL-1000 or OL-2000 Series Films ¹

¹ Not required for work zone signs using TJ03 TrafficJet Black ink only

TrafficJet Eco Solvent Spot Color Inks:

TrafficJet Ink Availability:

Color	Product Name	Available in
Yellow	TJ01 TrafficJet Yellow	440 mL* and 950 mL
Black	TJ03 TrafficJet Black	440 mL* and 950 mL
Blue	TJ05 TrafficJet Blue	440 mL* and 950 mL
Green	TJ07 TrafficJet Green	440 mL* and 950 mL
Red	TJ08 TrafficJet Red	440 mL* and 950 mL
Brown	TJ09 TrafficJet Brown	440 mL* and 950 mL
Worboys Green	TJ27 TrafficJet WB Green	440 mL* and 950 mL

*440 ml ink cartridges are only available for the 1638 printer, they are unavailable for the 1324 printer.

TrafficJet Ink Performance:

Signs produced with inks or overlay must meet the following requirements, as applicable to each color:

- Daytime luminance factor (Y%) shall meet Table 2 of ASTM D4956
- Daytime color must meet the specification color limits of Table 11 of ASTM D4956
- Nighttime color must meet the specification color limits of Table 13 of ASTM D4956

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Eco solvent spot inks must provide appropriate minimum contrast, as required in the table below:

Contrast requirements, expressed as a % of white base sheeting, to establish coefficient of retroreflection (RA) for area printed with transparent eco-solvent spot inks	
Ink Color	Minimum
Yellow	50
Blue	7
Green	13
Red	18
Brown	5

Coefficient of retroreflection measurements must be taken on the same lot of sheeting before and after printing. Measurements must be taken at all appropriate ASTM D 4956 specified geometries.

TrafficJet Typical Ink Coverage:

The table below shows the expected quantity of retro-reflective sheeting used per ink cartridge. Output is an approximation and can vary based on type of sign/ink coverage. Values are shown for both 440 mL and 950 mL ink cartridges.



	Full Coverage	80% Coverage	50% Coverage	30% Coverage
440 mL*	333 sqft 31 sqm	417 sqft 39 sqm	667 sqft 62 sqm	1111 sqft 103 sqm
950 mL	720sqft 67 sqm	900 sqft 84 sqm	1439 sqft 134 sqm	2399 sqft 223 sqm

*Only available for the 1638

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TrafficJet Ink Physical Properties:

Operating Temperature Range	68°F (20°C) to 89°F (32°C)
Operating Humidity Range	40% to 60% R.H.
Shelf Life	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-year shelf life from the date of manufacturing printed on the ink cartridge when stored at these conditions, except Green and WB Green, which carry a 6 month shelf life.
Other Tests:	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.

TrafficJet Ink Durability:

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

Warranted outdoor durability for temporary work zone signs printed with TrafficJet TJ03 Black Ink without overlay^A:

Series	Years
W-2000	3
W-6000	3
W-7000	3
W-9000	3
W-11000	3
WR-6100	3
WR-7100	3

^A See warranty statement for additional information.

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Warranted outdoor durability for permanent traffic signs Printed with TrafficJet TJ01 Yellow, TJ03 Black, TJ05 Blue, TJ07 Green, TJ08 Red, TJ09 Brown, and TJ27 Worboys Green ink with OL-1000 or OL-2000 overlay:

Series	Years
<i>T-1500D</i>	<i>7</i>
<i>T-2000</i>	<i>7</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>

Mutoh Eco Solvent Ultra Process Color Ink:

Mutoh Process Color Availability:

Color	Product Name	Available in
Cyan	Eco Ultra Ink	220 mL
Magenta	Eco Ultra Ink	220 mL
Yellow	Eco Ultra Ink	220 mL
Black	Eco Ultra Ink	220 mL

Mutoh Process Color Physical Properties:

Operating Temperature Range	68°F (20°C) to 89°F (32°C)
Operating Humidity Range	40% to 60% R.H.
Shelf Life	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 two-years shelf life from the date of manufacturing printed on the ink cartridge when stored at these conditions.

Mutoh Process Color Durability:

Process color inks will be warranted to be effective for their intended purpose as graphic logos, non-regulated colors and imagery for 3 years. Process color inks carry no traffic related performance warranties.

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Warranted outdoor durability for Mutoh Eco Ultra process color inks with OL-1000 or OL-2000 overlay^B:

Series	Years
<i>T-1500D</i>	3
<i>T-2000</i>	3
<i>T-6000</i>	3
<i>T-7000</i>	3
<i>T-9000</i>	3
<i>T-11000</i>	3

^B Outdoor durability warranted for vertical exposure. Product used in a finished graphic situated outdoors, and applied to recommended surfaces, will not deteriorate excessively such as, film discoloration, cracking, crazing, blistering, gloss changes, excessive dimensional change or loss of adhesion, so that the finished graphic is ineffective when viewed under normal conditions from the intended viewing distance. Actual performance life will depend on a variety of factors and may be longer depending on the printed color, geographical region, or climate type.

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 7-12 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 2 hours before the OL-2000 / OL-1000 is applied to ensure all solvents are completely removed before the overlay is applied.

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. We encourage you to check our website periodically for updates.

Instructional Bulletins:	
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
Tips for Applying OL-1000/OL-2000 Clear Overlay Films	#8.64

An additional instructional manual and printing guide is supplied by Avery Dennison with the TrafficJet 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 Print System 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 and 1324 Printer Maintenance* for details.

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.

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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.

