

Transportation Safety Division

# 3M™ Precision Plate System

## Digital License Plate Printing System

Product Bulletin PPS  
August 2020

Replaces Product Bulletin Dated May 2016

## 1 Description

The 3M™ Precision Plate System provides the next generation digital license plate printing via UV curable ink jet technology. Used in conjunction with the 3M™ Plate Builder system, the Precision Plate System supports digital processing and printing of all your license plates. The Precision Plate System accurately and efficiently produces high quality license plates.

## 2 Specifications

- Print Width: 12.5 inches (317.5 mm)
- Color: Full CYMK process color printing
- Grayscale Capability: 3 level grayscale on each color
- Resolution: 400 DPI (693 DPI apparent with 3 level grayscale)
- Number of Print Heads included: 20 heads, (5 wide – 4 color stations)
- Maximum Speed (same background image, plate to plate): 50 ft/min (16 meter/min) at 400 dpi, 3 level grayscale
- Web Thickness Range: 0 to 100 mils (2.54 mm)
- Input Material Roll Length: Up to 300 yards
- Input Material Core Diameter: 3 inches
- 3M™ Series 1510 UV Curable Ink Jet Inks
- UV Cure Lamp with adjustable intensity to match maximum print speed

### 3 Performance

- When printing license plates with the same background image and variable text/barcode fields, testing shows the printer is capable of printing at 50 feet per minute (approximately 4000 plates per hour including roll change overs<sup>1</sup>), at 400 dpi resolution and full 3 level grayscale.
- When printing license plate with variable background images (each plate a different background image) and variable text/barcode fields, testing shows the printer is capable of printing at 30 feet per minute (approximately 2400 plates per hour including roll change overs<sup>1</sup>) at 400 dpi resolution and full 3 level grayscale.
- The printer processes graphic images on the fly, which provides the flexibility needed to print different graphic images, fonts, and bar code types on each plate, as needed.

### 4 Ink Supply/Print Head Assembly

- Integrated 400 ml capacity ink reservoir, auto fill from bulk ink supply.
- Accurate temperature control.
- Integrated custom magnetically coupled pump with no moving seals.
- Continuous filtering and heating of re-circulating ink when system is powered.
  - The circulating ink circuit is held at the appropriate temperature. The temperature is programmable and is close loop controlled.
  - The ink is continually filtered; any debris in the system is captured by the 10 micron filter.
  - Any air bubbles are continually removed from the print head jetting channels

### 5 UV Curing Lamp

Series 1510 inks require exposure to intense ultraviolet light to initiate the polymerization reaction that cures the ink to its stable solid plastic form. The required ultraviolet light is generated by an auto-shuttered arc lamp, the intensity of which can be varied to adjust to print speed.

### 6 Bulk Ink Supply

The bulk ink supply automatically keeps the printing system supplied with ink. The bulk ink supply accepts ink in 5 L bags, which incorporate non-drip fittings to allow easy and clean ink bag replacement.

### 7 System Components

- **Unwind Module** – Where input material is loading onto the system. Also contains a splice table for splicing in new material.
- **Printer Module** – Contains the printer and UV cure station with integrated blower motor.
- **Accumulator Module** – Allows for the material to be reversed to eliminate gaps between printed runs.
- **Lamination Module** – Where the overlamine is applied in-line to the sheeting.
- **Rewind Module** – Where the finished product roll is wound up.
- **Control Panel** – Contains the system PC, power modules, system I/O modules, UV control module, print head support modules, and bulk ink supplies.

---

1. Actual plate output per hour may vary.

## 7.1 System Specifications

The Precision Plate System shall conform to the specifications presented in Table 1

**Table 1.** Roll Handling Unit Specifications

Media Overlamine	
Thickness	0.004 inches to 0.012 inches
Type	Protective overlamine film
Width	Up to 6.875 inches, motorcycle plates Up to 11.875 inches, full size plates
Length	Up to 300 yards
Core Diameter	3 inches
System Size of Printer / RHU	
Length	20.5 ft
Depth	88 inches
Height	120 inches
Power Requirements	
480V, 50 amps, 3-phase, 60 Hz	

## 8 Health and Safety Information

Read all health hazard, precautionary, and first aid statements found in the Precision Plate System User's Manual, Safety Data Sheets (SDS), Article Information Sheets, and products labels of any materials for important health, safety, and environmental information prior to handling or use. To obtain SDSs and Article Information Sheets for 3M products, go to [3M.com/SDS](http://3M.com/SDS), contact 3M by mail, or for urgent requests call 1-800-364-3577.

## 9 Warranty Information

### 9.1 3M Basic Warranty

3M warrants that Precision Plate System will be free of defects in materials and manufacture at the time of shipment and meet the specifications stated in this product bulletin ("Basic Warranty"). If Precision Plate System is proven not to have met the Basic Warranty on its shipment date, then a buyer's exclusive remedy, and 3M's sole obligation, at 3M's option, will be refund or replacement of the Precision Plate System.

### 9.2 3M™ Maintenance Agreement

In addition to the 3M Basic Warranty, 3M offers a maintenance and support services package that provides for parts and labor expenses associated with the operation and upkeep of the Precision Plate System. For full details, see the 3M™ Maintenance Agreement for Support Services: for 3M Systems Precision Plate System Software and Hardware and talk to your 3M representative.

### 9.3 Disclaimer

THE 3M WARRANTY IS MADE IN LIEU OF ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE, OR ANY IMPLIED WARRANTY ARISING OUT OF A COURSE OF DEALING OR OF PERFORMANCE, CUSTOM, OR USAGE OF TRADE.

### 9.4 Limitation of Liability

Except for the limited remedy stated above, and except where prohibited by law, 3M will not be liable for any loss or damage arising from the Signs or any 3M product, whether direct, indirect, special, incidental, or consequential damages (including but not limited to lost profits, business, or revenue in any way), regardless of the legal theory asserted including warranty, contract, negligence, or strict liability.

## 10 Other Product Information

Always confirm that you have the most current version of the applicable product bulletin, information folder, or other product information from 3M's Website at <http://www.3M.com/VehicleRegistration>.

## 11 Literature References

<a href="#">3M PB 1510</a>	3M™ Precision Plate System Series 1510 UV Ink Jet Inks for 3M Precision Plate System Printer
<a href="#">3M PB 6750</a>	3M™ High Definition Reflective License Plate Sheeting Series 6750 With Removable Top Liner
<a href="#">3M PB 9097</a>	3M™ Digital License Plate Clear Protective Film 9097

## **For Information or Assistance**

**Call: 1-800-553-1380**

**In Canada Call:**

**1-800-3M HELPS (1-800-364-3577)**

## **Internet:**

**<http://www.3M.com/VehicleRegistration>**

3M and Science. Applied to Life., are trademarks of 3M. Used under license in Canada.  
All other trademarks are the property of their respective owners.

3M assumes no responsibility for any injury, loss, or damage arising out of the use of a product that is not of our manufacture. Where reference is made in literature to a commercially available product, made by another manufacturer, it shall be the user's responsibility to ascertain the precautionary measures for its use outlined by the manufacturer.

## **Important Notice**

All statements, technical information and recommendations contained herein are based on tests we believe to be reliable at the time of this publication, but the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties, or conditions express or implied. Seller's and manufacturer's only obligation shall be to replace such quantity of the product proved to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct, indirect, special, or consequential, arising out of the use of or the inability to use the product. Before using, user shall determine the suitability of the product for his/her intended use, and user assumes all risk and liability whatsoever in connection therewith. Statements or recommendations not contained herein shall have no force or effect unless in an agreement signed by officers of seller and manufacturer.



## **Transportation Safety Division**

3M Center, Building 0225-04-N-14  
St. Paul, MN 55144-1000 USA

Phone 1-800-553-1380

Web [3M.com/roadsafety](http://3M.com/roadsafety)

Please recycle. Printed in USA © 3M 2020.  
All rights reserved. Electronic Only