

Transportation Safety Division

3M™ Piezo Inkjet Ink Series 8800UV

Product Bulletin Series 8800UV

June 2018

1 Description

3M™ Piezo Inkjet Ink Series 8800UV is designed as part of the 3M™ MCS™ (Matched Component System) for application using the Durst Rho 161TS/162TS Printer onto 3M™ High Intensity Prismatic Reflective Sheeting Series 3930 or 3M™ Diamond Grade Reflective Sheeting Series 4000 or 3M™ Engineer Grade Prismatic Reflective Sheeting 3430 or 3M™ Advanced Engineer Grade Prismatic Sheeting Series 7930 BEFORE mounting the sheeting onto a sign substrate.

2 Product Line


No.	Color	Stock No.
8805UV	Black	75-0301-9667-1
8812UV	Red	75-0301-5344-1
8814UV	Yellow	75-0301-5342-5
8816UV	Cyan	75-0301-5343-3

Container size is 5 liters.

No.	Color	Stock No.
8805UV	Black	75-0301-9668-9
8812UV	Red	75-0301-8170-7
8814UV	Yellow	75-0301-8168-1
8816UV	Cyan	75-0301-8169-9

Container size is 1.5 liters.

Both package sizes (1.5 l and 5 l) can be used for both printers (Rho 161 TS and 162 TS). Decision which package size should be used depends on the volume printed. The shelf life time of the inks needs to be taken into consideration as this is limited to 1 year. For details please contact your local 3M Technical Service. Recommended cleaning solvent is 3M™ Thinner CGS-80.

 **CAUTION:** Do not remove the individual ink bladders from their original boxes until they are installed in the printer. Exposure to any light causes them to cure prematurely.

3 Compatible Products and Laminates

3M™ Advanced Engineer Grade Prismatic Sheeting Series 7930

3M™ Engineer Grade Prismatic Reflective Sheeting Series 3430

3M™ High Intensity Prismatic Grade Reflective Sheeting Series 3930

3M™ Diamond Grade Reflective Sheeting Series 4000

3M™ Electro Cut™ Film 1170

3M™ Premium Protective Overlay Film 1160

3M™ Protective Overlay Film 1140

4 General Performance Considerations

3M™ Piezo Ink Jet Ink Series 8800UV, which is processed according to the 3M™ recommendations contained herein, can be expected to provide durability for traffic sign uses comparable to that of the 3M™ High Intensity Prismatic or Diamond Grade™ sheeting on which it is applied. For complete details on warranty levels by sheeting type and climate zone, please refer to the 3M™ TSD Signing Product Warranty Statement and the 3M™ TSD Signing Product Warranty Statement For Digital Printing Of Traffic Signs or contact your regional Technical Service/Sales Representative.

Important Notice: This product and instruction bulletin provides technical information only. All questions of warranty and liability relating to this product are governed by the terms and conditions of the sale, subject, where applicable, to the prevailing law.

Before using, the user must determine the suitability of the product for its required or intended use, and the user assumes all risk and liability whatsoever in connection herewith.

5 Support Information

Hardware and software support: Contact the printer manufacturer or authorized dealer.

6 Health and Safety

Note: When handling any chemical products, read the manufacturers' container labels and the Material Safety Data Sheets (MSDS) for important health, safety and environmental information.

MSDS sheets for 3M Inks: Material Safety Data Sheets are shipped with ink. When using any equipment, always follow the manufacturers' instructions for safe operation.

7 Ventilation

⚠ CAUTION: The Durst Rho 161TS/162TS printer must be connected to an external outflow device. Ventilation must be sufficient to prevent ozone and ink vapour build-up and maintain levels below the limit for worker exposure. Refer to the Durst Installation Guide for requirements. Refer to the printer's User Guide for ventilation details.

8 Printing Guidelines

The most successful and durable signs are achieved when all of the following criteria are met.

8.1 Selecting, Preparation & Using 3M™ Retroreflective Sheeting

Do not use damaged rolls of sheeting, which can result in head strikes and printer damage. Condition the sheeting, ink and overlamine for 24 hours in the same environment as the printer before using.

8.2 Traffic Signage Color / Sheeting Processing Recommendations

Do not use damaged rolls of sheeting, which can result in head strikes and printer damage. Condition the sheeting, ink and overlamine for 24 hours in the same environment as the printer before using.

In pre-press or layout programs, it must be ensured that no pre-defined color spaces or embedded color profiles are linked to the art work document, other than as an untagged CMYK color space. During the conversion (with Caldera software) from picture data to printer data, no ICC profile should be attached, and no linearization or ink limit features should be applied. Sheeting processing recommendations: Printer set-up 161TS/162TS is critical to achieve the image quality needs and to ensure proper sheeting processing, including UV cure dose. The following printer settings are required for the production of traffic signs to be covered by the 3M™ MCS™ warranty.

Print Resolution: 400 x 400 dpi and 400 x 600 dpi

Print Options: Print Quality: 4 Pass (3 Pass *) Print Direction: Bi-Directional Dithering: Stochastic (only for 161TS) Print Finishing: Glossy Print head Distance: 2,5mm (3 mm *) Printplane Temperature: 41°C (28-29°C*)

Media Profile: Ink Limit: Off (only for 161TS) Color Management: No ICC profile (only for 161TS) Linearization: No Linearization (only for 161TS) UV Lamp Power: 16 one Lamp curing (9 *) Media thickness : 0,5 mm Encoder offset: adjustable for each media

Important Notice! Since the UV power of the lamps deteriorate with time it is strongly recommended to control and measure the UV energy with a UV Integrator/radiometer regularly. Also refer to the Durst Operating Manual for detailed maintenance intervals for the lamps.

* for DURST Rho 162TS

8.3 Application of Overlamine

To avoid a silvering artefacts (trapped air between ink layer and overlamine), the lamination process should be conducted under a controlled set of conditions. Recommended laminator specifications and setup:

Roll diameter: max. 350 mm

Roll weight: approximately 80 kg

Roll width: 1400 - 1600 mm

Core size: 3 inches

2 Take-up shafts and 2 Supply shafts

Heat able top roller: min. 45°C Pressure: > 0,8 N/mm²

Speed: 1m/Minute

8.4 Manage Total Physical Amount of Ink on Film

Do not exceed the recommended fill levels for each traffic color, as given by 3M technician during printer installation, to ensure optimum image quality, adequate adhesion, and maximum throughput.

8.5 Operation and Maintenance Procedures

Printer cleanliness is very important in the production of high quality, full color graphics. Follow all operation and maintenance procedures recommended in the printer's user manual. 3M™ Thinner CGS-80 is the recommended solvent for this ink series for performing normal printer maintenance. Durst's daily cleaning table is reproduced below. 3M is not responsible for any changes Durst may make to this table:

When	What to Do	Tools/Accessories
Daily	Long Purge Cycle and manual wipe with a CGS-80 moistened cleaning cloth	Cleaning cloth (Durst # 1473245)
	Inspection of the nozzle plate and eventual cleaning using 3M™ Thinner CGS-80 cleaning solution	Cleaning cloth (Durst # 1473245) 3M™ Thinner CGS-80 cleaning solution
	Inspection of the print plane (removal of ink)	Cleaning cloth (Durst # 1473245) 3M™ Thinner CGS-80 cleaning solution
	Short Purge Cycle and wet wipe before daily shutdown	Cleaning cloth (Durst # 1473245) 3M™ Thinner CGS-80 cleaning solution

8.6 Shutdown

The System can be fully switched off for 1-3 days. When starting up follow the normal maintenance procedures. If the printer is not working for a long time, print all 4 Days min.1 m² with all 4 colours. You can do that on paper or vinyl. If the system is switched off for longer than 4 days: The hosts and the print heads should be flushed out with CGS-80 Cleaning Solution. This should be done in cooperation with Durst or their authorized Dealer/Distributor. For details, please consult the Durst Operating Manual and contact your Durst Service Technical representative. We recommend that each customer assign a master operator that will have maintenance responsibilities. This person will be trained by a technician during printer

installation and must use the recommended safety methods and safety measures. 3M™ Thinner CGS-80 is the recommended solvent for performing normal printer maintenance when using ink series 8800UV.

9 Shelf life, storage and shipping

9.1 Shelf life

Use within one year of date of manufacture. A Use by Date, such as “01/Jan/2013”, is on each ink box product label.

9.2 Storage Conditions

Leave the ink bladder in the original box during both storage and use to prevent exposure to light; light can cause the UV ink to cure prematurely and damage the printer. – 0° to 32° C (32° to 90F)

9.3 Shipping Finished Signs

Refer to the base sheeting's Product Bulletin.

9.4 Shipping Ink

In accordance with EU Regulations, the ink is adequately labelled for proper transportation and shipment to its final destination. Opened ink boxes and bags may no longer provide adequate protection against leaks and spills. Exercise caution when shipping opened boxes or bags to ensure prevention of spills or leaks.

9.5 Waste disposal

Waste from the printer includes ink waste, cloth, paper towels and ink boxes and bags. Please handle all waste in a responsible manner. Some general guidelines are provided below.

9.6 Ink

Ink waste must be incinerated in an industrial or commercial facility. Do not pour the inks down the drain, or put in the general trash or in a landfill. Since regulations vary, consult applicable regulations or your local authorities before disposal.

9.7 Cloth or Towelling (wipes), Empty Ink Boxes and Bags, Uncured Prints

A 55-gallon drum with a closeable top is recommended for the disposal of waste ink, cloths, non-cured prints and empty ink boxes and bags. This material should be incinerated in an industrial or commercial facility in accordance with local requirements.

10.1 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.

10.2 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.

10.3 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.mmm.com/tss>.

10.4 Health and Safety Information

Read all health hazards, precautionary, and first aid statements found in the Material Safety Data Sheet, and/or product label prior to handling or use.

10.5 Literature References

Before starting any job, be sure you have the most current Product and Instruction Bulletins.

3M™ High Intensity Prismatic Grade Reflective Sheeting Series 3930	PB 3930
3M™ Diamond Grade Reflective Sheeting Series 4000	PB 4000
3M™ Advanced Engineer Grade Prismatic Sheeting Series 7930	PB 7930
3M™ Engineer Grade Prismatic Reflective Sheeting 3430	PB 3430
3M™ ElectroCut™ Film Series 1170	PB 1170
3M™ Premium Protective Overlay Film Series 1160	PB 1160
3M™ Protective Overlay Film 1140	PB 1140
Instructions for Operation of Interstate Squeeze Roll Applicator	IF 1.4
Hand Application Instructions for 3M™ Reflective Sheeting and Scotchcal™ Films with Pressure Sensitive Adhesive	IF 1.5
Hand Squeeze Roll Applicators HSRA 48" and 36" Specifications, Operating Procedure	IF 1.6
Sign Base Surface Preparation for 3M™ Reflective Sheeting Application	IF 1.7
Storage, Packing, Installation, Sign Positioning, Cleaning, Night time Inspection, Sign Face Replacement and Sheeting Removal for 3M™ Reflective Sheeting	IF 1.11

Important Notice to Purchaser

All statements, technical information and recommendations herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed. Before using, user shall determine the suitability of the product for its intended use, and user assumes all risk and liability whatsoever in connection therewith. All questions of warranty and liability relating to this product are governed by the terms of the sale subject where applicable to the prevailing law. No statement or recommendation not contained herein shall have any force or effect unless in an agreement signed by officers of seller and manufacturer.

For Further Assistance

For help on specific questions relating to 3M™ reflective products, please contact your local 3M Application Engineer or contact:



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