Screen Printing Ink Series 9700UV
For line colour, four-colour screen printing and clear coating of Piezo ink jet printed graphics

Description
3M™ Screen Printing Ink Series 9700UV is a high performance, ultraviolet radiation-curable ink system used to print and protect multicolour graphics on a wide variety of 3M films. Screen print clear 9720UV may be used to protect selected piezo ink jet printed graphics. Multicolour graphics on a wide variety of 3M films. The ink series includes transparent, opaque and four-colour process inks and clears for use on interior or exterior applications. This weather resistant ink produces a tough, flexible, chemical-resistant and abrasion-resistant coating. It also has superior exterior performance on difficult application surfaces, including corrugated and riveted surfaces.

Applications and Uses
Ink series 9700UV is formulated for use on selected 3M films. These inks are intended only for use with the listed Compatible Products and the following applications. These types of applications are warranted by the 3M™ MCS™ Warranty.

- For interior and exterior graphics
- For graphics used in a petroleum environment where staining is not a concern

3M Training on Usage Required
All printers must receive training from 3M on handling and processing ink series 9700UV before their graphics will be warranted by the worldwide 3M™ MCS™ Warranty.

Limitations of Uses
The following uses and applications are specifically NOT warranted.

- Transit-mix cement trucks or other vehicles frequently washed with concentrated, strong acids or aluminum brighteners. Use 3M™ Screen Printing Ink Series 1900 with overprint clear 1920DR for opaque colour and 3M™ Scotchlite™ Screen Printing Ink Series 2900 with overprint clear 1920DR for transparent colour.

Ink Characteristics
- Graphics with more than 4 colours require special processing. See Instruction Bulletin 3.4.
- Cure with a focused-lamp unit

Compatible Products
Screen Printing Inks
3M™ Screen Printing Ink Series 1900
3M™ Screen Printing Ink Series 2900
3M™ Screen Printing Ink Series 9700UV

Piezo Ink Jet Ink Series
3M™ Piezo Ink Jet Ink Series 1500
3M™ Piezo Ink Jet Ink Series 2600UV
3M™ Piezo Ink Jet Ink Series 4600
3M™ Piezo Ink Jet Ink Series 5500
3M™ Piezo Ink Jet Ink Series 6000
3M™ Piezo Ink Jet Ink Series 6800

Films
Ink series 9700UV is compatible with most 3M, Scotchcal, Controtac and Scotchlite branded films that are designed for screen printing. The screen print clear from ink series 9700UV can also be used on most piezo ink jet printed graphics. Refer to Product Bulletin for the base film used in your graphic construction for ink compatibility, warranty, limitations of usage and special considerations.

Application Tapes
- 3M™ Premasking Tape SCPM-44X
- 3M™ Prespacing Tape SCPS-55 (to be used on exposed Comply liner)
### Product Line

<table>
<thead>
<tr>
<th>9700 series UV screen printing inks</th>
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<tbody>
<tr>
<td>9700</td>
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</table>

### Ink and Overprint Clear Preparation

Refer to the Instruction Bulletins listed in the 3M Related Literature section, located at the end of this Bulletin, for more complete information.

#### Mixing

- Ink series 9700UV line colour inks and overprint clears are supplied press ready and do not require mixing with other components.
- The inks of four colour ink series 9700UV are supplied as concentrates. They must be mixed with halftone base and toner to be made press ready, as indicated below.
- Screen print clears 9720UV and 9730UV can be mixed to obtain a custom gloss, but reduces the warranty to that specified for graphics using 9730UV.

### Special Applications

Refer to the Instruction Bulletins listed in the 3M Related Literature section, located at the end of this Bulletin, for more complete information.

#### Piezo Ink Jet Printed Graphics

Screen print clear 9720UV can be used on most 3M piezo inks in many end uses. The piezo inks must be adequately dried before applying the clear. Too much residual solvent will result in an uneven surface and/or low gloss levels when the clear is applied.

### Packaging

The inks, halftone concentrates, halftone bases, overprint clears and thinners are sold in one US gallon (3.8 litres) containers.

### Coverage

#### Coverage Line Inks

The coverage of inks will vary with the screen mesh used; however, coverage of 70-85 sqm per litre can be expected when printed through a 150T screen mesh.

#### Coverage 4-Colour Inks

The coverage of inks applied as recommended, will be approximately 70-85 sqm/litre with 100% dot coverage.

#### Coverage Clear Coat

Overprint clear will cover approximately 70-85 sqm/litre when printed through a 150T screen mesh. Use of less than recommended usage of overprint clear can result in shortened durability.

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Note: 9702, 9712 and 9733 have been replaced with lead-free alternative inks. These are not one-to-one replacements, but can be used to colour match the lead containing inks with the follow approximate formulations.

Lead-containing pigments. The recommended alternative lead-free replacements are 9713, 9723 and 9732. These are not one-to-one replacements but can be used to colour match the lead-containing inks with the following approximate formulations:

<table>
<thead>
<tr>
<th>To replace This Colour</th>
<th>Use this Formula (Volume by Weight):</th>
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</thead>
<tbody>
<tr>
<td>9702</td>
<td>65 parts 9732 + 35 parts 9752</td>
</tr>
<tr>
<td>9712</td>
<td>91 parts 9732 + 9 parts 9752</td>
</tr>
<tr>
<td>9733</td>
<td>94 parts 9723 + 6 parts 9715</td>
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</tbody>
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Ink 9704 is a blockout colour only; do not use it as a mixing colour.

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Warranty

The warranty given by 3M depends on the screen printing ink/film combination. Detailed warranty information is listed in the 3M Graphic Warranties matrix.

Listed below are the maximum warranties (years) given for 9700 series UV screen printing inks when clear coated with 9720UV Overprint Clear.

<table>
<thead>
<tr>
<th></th>
<th>Zone 1</th>
<th>Zone 2</th>
<th>Zone 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line Ink</td>
<td>8</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>4-Colour Ink</td>
<td>6</td>
<td>5</td>
<td>4</td>
</tr>
</tbody>
</table>

Zone 1 = Northern & Central Europe  
Zone 2 = Mediterranean Europe  
Zone 3 = Middle East and Northern Africa

Performance is based upon field experience and exposure tests conducted throughout Europe and

- Markings are warranted against fading, cracking, peeling, lifting or discolouration due to natural weathering.
- Markings are warranted against ink or overprint clear removal, base film damage or lifting, or staining caused by or the use of non-approved cleaning methods, solutions or solvents or excessive abrasion.
- Changes in appearance caused by bird deposits, insect secretions and dirt are not covered under this warranty.

Markings intended for interior use or exterior performance of 2 year or less, do not require 9720 overprint clear. If abrasion and solvent resistance is required, it will be necessary to coat with 9720 overprint clear.

Note: Perforated Window Marking Film graphics need to be clearcoated or have to be protected with an overlaminate.

Storage

Inks should be stored away from heat sources at temperatures between 0ºC-27°C (32º-80°F) and used within one year of the date of purchase.

Inks should be stored and used in areas away from direct sunlight, mercury vapour lamps, quartz-halogen lamps and arc lamps. Do not use ink, which shows signs of gelling. Do not store mixed inks in glass or metal containers.

Related Literature

Listed below is related 3M Technical Literature that may be of interest. Contact your local 3M sales or technical representative to order these bulletins.

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<tr>
<th>Subject</th>
<th>Instruction Bulletin</th>
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<tbody>
<tr>
<td>Screen printing with 9700 series UV line ink</td>
<td>3.4</td>
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<tr>
<td>Screen printing with 9700 series UV 4-colour ink</td>
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<tr>
<td>Scoring and Cutting</td>
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<td>Premasking and Prespacing</td>
<td>4.3</td>
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<tr>
<td>Surface Preparation</td>
<td>5.1</td>
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<tr>
<td>Storage, Maintenance and Film Removal</td>
<td>6.5</td>
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<tr>
<td>Application</td>
<td>5.4, 5.5</td>
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<tr>
<td>3M Graphics Warranties matrix</td>
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Health & Safety

Refer to the package label and the Material Safety Data Sheet for health, safety, and handling information on the products referenced in this bulletin. For 3M products, if necessary, you may contact our Toxicology/Product Responsibility Department on 01344 858000.

Important Notice to Purchaser

The 3M products described in this publication are covered by a 3M warranty and limitation of liability. 3M’s warranty provides that if 3M finds that goods are defective in material or workmanship they will be replaced or the price refunded at 3M’s option but note that 3M does not accept liability for other direct losses (except for personal injury or death) or consequential losses relating to defective products or from information supplied by 3M.

Purchasers and users of 3M products, and not 3M supplying companies, are always solely responsible for deciding on the suitability of the 3M product for their required or intended use.

Technical Assistance

For help on specific questions relating to 3M Commercial Graphics Division Products, contact your local Technical Service Representative.

Commercial Graphics Department
3M United Kingdom PLC
3M Centre, Cain Road, Bracknell
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Tel: 01344 857850
Fax: 01344 857939
e-mail: commgraphics.uk@mmm.com
www.3m.com/uk/graphicsolutions
www.scotchprint.com/uk

Sales Assistance

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3M House, 28 Great Jackson Street
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e-mail: commgraphics.uk@mmm.com
www.3m.com/uk/graphicsolutions
www.scotchprint.com/uk

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www.scotchprint.com/uk