



# Transparent Screen Printing Overprint Clear Ink

4430R

Product Bulletin 4430R

October 2014

---

## Description

3M™ Transparent Screen Printing Overprint Clear Ink 4430R is designed for application over 3M™ Process Color Inks Series 900 that have been applied to the sheeting series listed below.

Thinner	Sheeting
T-11A	Series RS20
CGS-30	Series RS30
	Series 3300
	Series 3910

## Overprint Clear Preparation Mixing of Overprint Clear Ink 4430R

1. Overprint clear 4430R MUST be thoroughly mixed with a power mixer following addition of the catalyst. The entire quantity of catalyst (Component B) must be added to the overprint clear (Component A). Use of a propeller type mixing blade is recommended. Hand mixing or the use of a paint shaker is not satisfactory. If multiple containers are to be prepared and used at the same time, the individual units should be power-mixed before combining and thinning.
2. Overprint clear 4430R is packaged at close to the recommended usage-viscosity for screening. Additions of 3M™ Scotchcal™ Thinner CGS-30 or 3M™ Thinner T-11A should be kept to a minimum (approximately 10%). Excessive thinning can cause coating and durability problems.

*NOTE: Overprint clear 4430R must be used within four hours after mixing; all mixed overage older than four hours must be discarded. Lay the lid on the container. Do not seal can once components A and B have been mixed, but protect both the mixture and components from exposure to moist air.*

## Application of Overprint Clear Screen Printing

Screen print the thinned overprint clear through a PE 139 mesh or equivalent using a flood or fill pass, followed by an impression pass. If bubbling of the overprint clear becomes a problem use a double impression pass.

## Roller Coating

The roller coater bars should be set half open and several sheets of reflective sheeting run through the machine and tested for overprint clear thickness. If the overprint clear thickness exceeds tolerances, the roller coater bar should be adjusted as necessary. If overprint clear build-up is noted on the edge of the roller, the entire machine must be disassembled and cleaned. Thinner must not be added to overprint clear 4430R after it has been poured into the roller coater; therefore, it is recommended that only the quantity of thinned overprint clear necessary for operation be placed in the roller coater.

---

**Description  
(continued)****Thickness**

In order to obtain the stated durability, the overprint clear thickness after drying must be 0.0004 inch to 0.0006 inch (0.009 to 0.015 mm) on the printed areas. Test for thickness as follows using a Model 691 B-R2 Federal Caliper or equivalent.

1. Apply pressure sensitive masking tape across entire length of sheeting in the center. Apply overprint clear, remove tape and thoroughly dry.
2. Measure the thickness of overprint clear by reading caliper at one (below) adjacent to taped area, and then at center area two (below) where masking tape was on base sheeting.
3. The difference between these two readings will be the dry thickness of the overprint clear.

**Oven Drying of Overprint Clear 4430R**

Air dry for a half hour with high volume fans directed at the racks followed by three hours at 150°F (65°C). If two coats are necessary to obtain the needed overprint clear thickness, each coating of overprint clear must be oven dried as noted above. If markings are to be applied to corrugated surfaces, overprint clear 4430R must be oven dried.

*NOTE: Many types of ovens maintain a temperature well below the set point temperature. It may therefore be necessary to have the set point at 175°F (80°C) in order to maintain the coolest part of the oven at 150°F or higher.*

**Air Drying of Overprint Clear 4430R**

Air dry for a minimum of 24 hours, with high volume fans directed at the racks. If 4430R overprint clear is not sufficiently dried, severe surface impression or permanent bonding of premask tape to the overprint clear may occur. While 24 hours air dry should be adequate in most instances, shop conditions could require longer dry times. In order to determine if the overprint clear has been adequately dried, the following test should be performed.

1. Place a large drop of CGS-30 Thinner on the clear coated sheeting. Allow to stand for 5–10 seconds and then wipe off the CGS-30.
2. If, in wiping off the thinner, you see any of the following, then the overprint clear is not air dried sufficiently.
  - A. Dissolving of the overprint clear.
  - B. Softening of the overprint clear under the solvent and streaking of the overprint clear where you have wiped it off. This will happen to a lesser degree each time you test until the overprint clear is cured.
3. When the overprint clear is adequately dried, the solvent will have no effect on the surface of the overprint clear, i.e., no streaks, no roughness of overprint clear caused by dissolving and recurring, and no whiteness.

**Cleanup Solvents**

Use a commercially available lacquer thinner. A suitable substitute may be formulated by blending xylol, ketones, (MEK, MIBK or a mixture) and VM&P Naphtha. Also a 50/50 mixture, isoprene and xylol may be used.

**Overprint Clear 4430R**

CGS-80 Thinner, MEK (methyl ethyl ketone) or carbitol acetate.

**CAUTION:** When using solvents for cleanup, it is essential that proper precautionary measures, as recommended by the solvent manufacturer for handling such materials, be observed.

<b>Description (continued)</b>	<p><b>Miscellaneous Coverage</b></p> <p>Coverage of the inks and the clears should be 750–800 square feet per gallon (70–74 square meters per 3.8 liters), but it can vary with amount of thinner used and application method.</p> <p><b>Storage</b></p> <p>General warehouse storage (16°C/60°F to 27°C/80°F).</p> <p><b>Shelflife</b></p> <p>12 months from date of manufacture.</p> <p><b>Packaging of Processed Markings</b></p> <p>The overprint clear must be completely dry before packing. It is not necessary to slipsheet printed markings for packaging unless the protective liner has been imprinted, or the faces have been premounted. When slipsheeting is necessary, use SCW 568.</p>
<b>Health and Safety Information</b>	<p>Read all health hazard, precautionary and first aid statements found in the Safety Data Sheet, and/or product label of chemicals prior to handling or use.</p>

**FOR INFORMATION OR ASSISTANCE  
CALL: 1-800-553-1380**

**IN CANADA CALL:  
1-800-265-1840**

**Internet:  
[www.3M.com/roadwaysafety](http://www.3M.com/roadwaysafety)**

3M is a trademark of 3M. Used under license in Canada.

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, 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, 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. 3M and Scotchcal are trademarks of 3M. Used under license in Canada.



**Traffic Safety and Security Division**  
3M Center, Building 225-04-N-14  
St. Paul, MN 55144-1000  
1-800-553-1380  
[www.3M.com/roadwaysafety](http://www.3M.com/roadwaysafety)

**3M Canada Company**  
P.O. Box 5757  
London, Ontario N6A 4T1  
1-800-3MHELPS

**3M México, S.A. de C.V.**  
Av. Santa Fe No. 55  
Col. Santa Fe, Del. Alvaro Obregón  
México, D.F. 01210

Please Recycle  
© 3M 2014. All rights reserved.  
Electronic Only