

Avery Dennison®

4930 Series Inks

10 Year – 1 Part Solvent

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Series 4930 Process Colors are designed for use on all Traffic and Work Zone High Intensity Beaded and Prismatic Avery Dennison retroreflective films: T1500A, T2500 PEG series, T5000, T6000 HIP series, T7000 MVP series, OmniView T9000 Sheeting and OmniCube™ T11000. The durability of the 4930 inks will match the durability of the Avery Dennison retroreflective film being used as a substrate. The 4930 ink system is specifically formulated to maintain its effectiveness and durability and is only approved for use on Avery Dennison sheeting.

Although the application of the clear coat adds to the durability of the brilliant transparent colors, it is not necessary. Clear coat is made available as an option.

To obtain the proper colors, ensure weatherability, and attain screening efficiency, it is important that the user carefully follow all procedures within this technical bulletin.

Note 4930 Series Inks with OmniView™ and OmniCube™ have a 12-year durability, please see the OmniView and OmniCube™ PDBs.

4930 Ink Colors

- Opaque Black
- Transparent Yellow
- Transparent Red
- Transparent Green
- Transparent Blue
- Transparent Brown
- Transparent Orange
- Clear Coat
- Thinner

Custom ink colors are available but may not have the 10 year durability. Durability is dependant on the pigments used to achieve the desired color. Please see your Avery Dennison representative for details.

Equipment and Procedure

(See Figure 1.)

Mesh—A high-grade polyester monofilament screen fabric or equivalent should be used. A screen mesh of 157-180 (62 - 71 threads/sq cm) is required to achieve proper color.

Stencil—Stencil materials must be solvent resistant. Rapid photopolymer direct emulsions or capillary films are recommended. Solvent-adhered stencil films should not be used with the Series 4930 system.

Screen—Use a uniformly tight silk screen with a metal or wood frame. The screen should have a well area 6" (15cm) or greater.

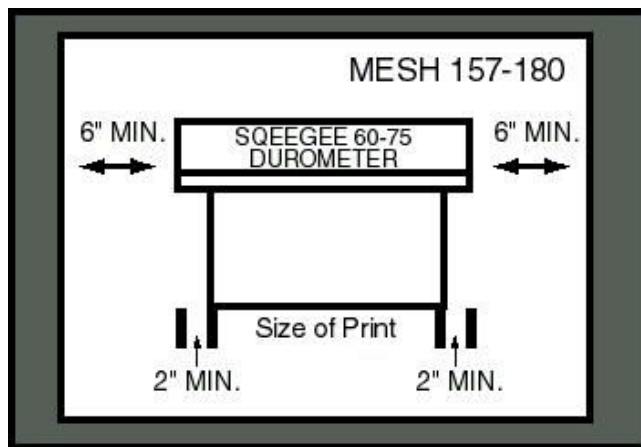


Figure 1

Squeegee—Squeegees should be medium-hard (60-75 durometer) with a sharp, square edge free of nicks etc. The squeegee should be of a length that overhangs the image by 2" (5cm).

Processing

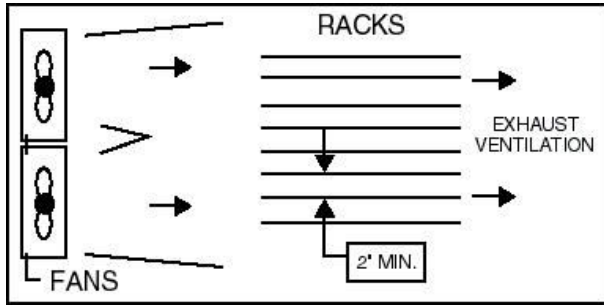
Allow the ink to acclimate to room temperature before processing. Thoroughly mix the ink, with a power mixer, and allow the mixed ink to set for a short period of time so air bubbles can escape before using. Air bubbles will cause an inconsistent screen print. Additionally, the 4930 series ink should be power mixed at least ten minutes prior to screening. Power mixing of the ink ensures the pigments in the ink to be completely dispersed throughout the ink. If the ink is not properly mixed the pigment will settle to the bottom of the ink container.

Inks and clear coat are packaged press ready. The ink may be thinned only with 4930 thinner up to 10% to replace any solvents lost during use or in high heat conditions in the shop. Do not mix any inks or thinners together that are not of the Series 4930 System.

Screen processing may be accomplished by using the off-contact method of screen printing. Be sure that all components of the printing process are free of dust, dirt, and other airborne particles that may contaminate the printing surface.

In the event of a screening error, immediately wipe clean the misprint with the Series 4930 Thinner. If the image dries, it cannot be removed. The user must determine the suitability of the face before it is reused.

Drying



The Series 4930 System can be air- or oven-dried. The use of additional thinner, poor air movement, high humidity, etc. can slow the drying process. It is very important to check each production run for ink adhesion. Extra solvents can cause a lack of ink drying which can cause poor initial ink adhesion or ink blocking. To create a safe environment for screen printers, exhaust ventilation should be utilized in the sign shop.

Air-drying—Air-drying in racks requires high volume air movement (4000-6000 cfm) across the individual rack faces. Allow a minimum of 2" (5cm) between shelves for air flow (See Fig. 2). If proper ventilation is used, the inks should air-dry for a minimum of 1 hour between colors, 2 hours prior to clear coating, and a minimum of 4 hours after clear coating.

Oven-drying—When oven drying ink do not exceed temperatures of 190°F (88° C). Sufficient horizontal air movement is also required. The colors should be oven-dried for a minimum of 15 minutes between colors and 30 minutes after clear coating.

Wash Up

Contact the following company regarding wash up systems for cleaning screens and equipment:

Intercontinental Chemical Corporation
4660 Spring Grove Ave.
Cincinnati, OH 45232
1-800-543-2075

Packaging

Finished signs need to be packaged face-to-face. Every sign face must be protected with a piece of slip sheeting. The smooth side of the slip sheeting should be placed against the face. Avoid any heavy stacking and always store the signs on edge.

Storage

Containers should be tightly closed immediately after use. At the end of long-printing runs, dispose of surplus ink from the screen. Never mix used ink with fresh ink.

Do not store inks in direct sunlight or at extreme temperatures. For maximum shelf life, storage temperatures should be between 50°F - 77°F (10°C - 25°C).

Safety and Handling

Refer to the Material Safety Data Sheet and all product labels for comprehensive information on the safety and handling of process colors. Caution: Wearing gloves, safety glasses, and other safety equipment is required when working with inks and cleaning solvents.

Other

Since Avery Dennison has no control over the manufacture of other ink systems, users must determine the suitability of such products for their intended use. Avery Dennison assumes no responsibility for ink and sheeting issues or failures with other non-approved ink systems. It is also the responsibility of the sign fabricator to know the approvals of ink and substrate combinations for the intended use at the end user or government agency.

The above Avery Dennison literature provides information to the user for proper application, storage, and other requirements. Please refer to Product Data Bulletins or your local Avery Dennison Representative for warranty information. Find the latest information on the Avery Dennison website, www.reflectives.averydennison.com. We encourage you to check our website periodically for updates.

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.