

4228 Lamination Clear

PRODUCT INFORMATION

The 4228 ink is a one component, water-based clear laminating adhesive which adheres to vinyl and similar polymers utilized within the stringent secure and credit card printing industry.

APPLICATION FIELD

These clear laminating adhesives, available in both screen printing and rotogravure versions, provides a superior bond to the substrate surface and can be used as the mixing vehicle for pearlescent and metallic powders when over printing screen print and/or offset imagery. In addition, the 4228 Over-laminating adhesive can be mixed with our WB Color Concentrates to give the adhesive a translucent color appearance. It can be printed over off-set and screen printed inks.

APPLICATION PROCESS

Substrates	PVC and similar substrates used to produce secure cards and credit cards.
Th/cm	From 200 to 305 (80 to 120 cm), monofilament polyester is recommended.
Emulsion	Solvent and water-proof emulsion only. Dual cure emulsions are recommended for added durability. Emulsion stencil must be thoroughly dried before image exposure. Use a water-proof block-out or emulsion for small touch-up areas.
Squeegee	Sharp 60 single durometer polyurethane blade
Ink Yield and Coverage	Colors should achieve a yield of 1,400 to 2,000 square feet per gallon (33 to 47 square meters per liter) depending upon on substrate selection, squeegee hardness, substrate absorption and press mechanics.

Drying	The 4228 Lamiating Clear will air dry in 20 to 30 minutes at normal room temperature. Force drying in seconds at 90° to 150° F (32° to 66° C). To prevent the blocking of material after printing, it is paramount to ensure that the temperature of the drying is not excessive and the air flow surrounding the material is good. Material blocking may occur if sheets are stacked when still warm.
Cleaning	Use S-034 Screen Cleaner for press or screen clean up. When cleaning screens, first spray all ink areas with the S-034 screen cleaner. Let stand for 3-5 minutes then pressure wash with water.
Storage	Store at room temperature, below 100° F (38° C). Always avoid open flames and excessive heat exposure. Protect from freezing.
Packaging	Available in gallons and five-gallon pails 30 gallon drums.
SDS	Available upon request

GENERAL FEATURES

- Low VOC
- Easy Clean Up
- Force dries n seconds
- Excellent adhesive bond

ADDITIVES AND THINNERS

Stir the ink well before every use. The 4228 ink is supplied in a press ready condition for most applications and printing equipment. Use 1822 thinner or water for normal viscosity adjustments by no more than 5 to 10% by weight. Retarders should be used sparingly to reduce the inks drying time within the screen. Use TW-1823 for fine detail printing, slow print cycles or high temperature conditions. Use no more than 5 to 10% of thinner or retarder by weight. 5100 Defoamer can be used

by 1 to 2% by weight to eliminate the “bubbling” or foaming effect of the ink when printing at high press speeds. An over reduction with retarders and thinners can result in blocking and a significant reduction in drying speed. Never exceed recommended levels of reduction.

5008 Liquid Thickener can be used to increase the inks viscosity. This is normally added when printing fine detail or halftone areas. Only 1/2 to 1% of Thickener needs to be added by weight to increase the inks viscosity. After adding the Thickener to the ink, mix very well and allow the viscosity to fully develop for 10 minutes before use within production.

PRODUCT RANGE

The 4228 Laminating Clear includes the screen printing laminated clears, additives and thinners.

Code	
4228	OVER LAMINATIONG CLEAR

Additives / thinners

Code	
TW-1823	SLOW RETARDER
TW-1822	THINNER
TW-1820	FAST DRY THINNER
5100	DEFOAMER
5008	LIQUID THICKENER
S-039	MESH LUBRICANT
S-034	SCREEN CLEANER

COLOR CONCENTRATES

These highly pigmented Color Concentrates are compatible with all of the TW Graphic’s water-based ink lines. The concentrates are offered to advanced color formulators who wish to have the flexibility to create an endless range of colors. Please read the section directly below on how to use the Color Concentrates appropriately within our water-based ink systems.

WB-01 Green Shade Yellow
 WB-02 Red Shade Yellow
 WB-03 Yellow Shade Red
 WB-04 Blue Shade Red

WB-05 Magenta
 WB-06 Maroon
 WB-07 Violet
 WB-08 Red Shade Blue
 WB-09 Green Shade Blue
 WB-10 Blue Shade Green
 WB-11 Yellow Shade Green
 WB-40 Halftone Yellow
 WB-41 Halftone Magenta
 WB-42 Halftone Cyan
 WB-43 Halftone Black
 WB-25 Black
 WB-21 White
 Fluorescent (9)

CONCENTRATE MIXING INSTRUCTIONS

The WB Series Color Concentrates may be added to any of the TW Graphics 1000, 2000, 4000, 5000 and 5500 water-based ink series. Please take note however that these concentrates are not press ready inks and must be used proportionately with a Clear Base or white to maintain the inks printing integrity.

CALCULATED PHYSICAL PROPERTIES

VOC

Does not exceed 1.9 lbs. per gallon (220 grams per liter).

Weight Solids

39% (plus or minus 2%) Non-volatile.

Viscosity

875 cps. (plus or minus 75 cps.). Measured with a #4 spindle @ 12 rpm on a Brookfield LVT model viscometer.

Weight

8.72 lbs per gallon (plus or minus 0.10 lbs. or 45.35 grams) or 3.95 kilograms per Gallon
 Recommended 1.5 lbs. (680.35 grams) per ream.
 Minimum values varies with substrate and individual Coating Weight performance requirements.

IMPORTANT NOTE

The information given in this technical sheet is not intended to be exhaustive and any person, using the product for any purpose other than that specifically recommended in this sheet without first obtaining written confirmation from us to the suitability of the product for the intended purpose, does so at his own risk.

While we endeavour to ensure that all advice we give about the product is correct, we have no control over either the quality or condition of the substrate or the many factors affecting the use and application of the product.

Therefore, unless we specifically agree in writing to do so, we do not accept any liability whatsoever or howsoever arising for the performance of the product or for any loss or damage arising out of the use of the product.

The information contained in this sheet is liable to modification from time to time in the light of experience and our policy of continuous product development.