

Features

- Low viscosity press ready colours
- Adhesion to a wide range of synthetic substrates and papers
- High colour strength
- Dedicated Pantone®* formulations
- High gloss

*PANTONE® is the property of Pantone, Inc.

UVivid Flexo JD is a high quality UV curing flexo ink system offering premium value to narrow web printers. Through introduction of this system it is possible to deliver optimum productivity and high quality prints.

UVivid Flexo JD has been developed to give the highest performance across a wide range of UV flexo machinery, complementary press products and substrates.

Applications

UVivid Flexo JD is suitable for a wide range of applications including: self-adhesive labels, sachets and pouches, unsupported films, low shrink sleeves, wrap-arounds and in-mould labels.

Printing Recommendations

Anilox

UVivid Flexo JD is developed for use with fine anilox screens and volumes to minimise ink deposits and optimise print quality and efficiency. Guideline anilox recommendations:

Printing format	Screen lines per inch lpi	Cell Volume cm ³ /m ²
4 colour process	900 -1200	2.5 - 4
Line and Type	350 - 550	5 - 7
White	150 - 250	12 - 20
Metallics	250 - 325	7 - 10
Varnishes	150 - 350	6 - 10

Doctor Blades

The low viscosity of the ink system makes it suitable for reverse angle and chambered doctor blade systems. To obtain optimum results it is recommended that a doctor blade is always used.

Plates and tape

UVivid Flexo JD is compatible with the majority of plate materials recommended for UV ink systems. The choice of plate and backing tape used to mount the plates can have an impact on the quality of the print. The following recommendations are offered as a guideline:

Printing format	Tape Density
4 Colour Process	Low
Solids and Backing Whites	High
Type and Reversed Out Areas	Medium

Combination Printing

There are two options available for printing UVivid Flexo JD over Sericol's rotary screen inks; UVivid Rotary Screen RN:

Option 1: An addition of 2% ZEA12 Trapping Additive to each UVivid Flexo JD colour will allow the inks to overprint standard UVivid Rotary Screen RN colours without reticulation or loss of density occurring.

Option 2: For applications where a screen Basecoat White only is required UVivid Rotary Screen RN034 Combination White can be used. This product is silicone free and does not

require the addition of Trapping Additive to the UVivid Flexo JD colours. However, when using this option special housekeeping procedures are required. A separate Product Information and Hints and Tips sheet for the use of UVivid Rotary Screen RN034 Combination White is available from our website.

Substrates

Substrate	Recommendation
Synthetics	UVivid Flexo JD has been developed for use on a wide range of synthetic substrates including: PE, PP, PVC, TC-PE, PP, PS and PET. To ensure that optimum results are obtained it is important that the surface tension of the materials being printed are between 38 - 44 dynes/cm. Corona treatment may also improve the adhesion and lay of an ink.
Papers	UVivid Flexo JD generally exhibits good performance when printed over the majority of commonly available papers. When printing over absorbent papers there may be issues with the hold out of the UVivid Flexo JD inks. This can be exaggerated when printing thin films and at low machine speeds. We recommend that machine speeds should be in excess of 40m/min.
Thermal active papers	UVivid Flexo JD can be used for printing thermal papers. Care must be taken with uncoated thermal papers as they can discolour. As with all ink systems Opaque White, Metallics or Matt Varnishes may cause damage to the printheads.
Thermal transfer	A range of thermal transfer ribbons can be used to overprint UVivid Flexo JD inks. Due to the wide variety of ribbons on the market the properties of individual ribbons may vary.
Metallised foils	UVivid Flexo JD adheres to a number of Metallised foils. However due to the great variety of materials on the market an individual foil should always be tested.
Hot-foiling	UVivid Flexo JD has good hot foiling properties. Due to the wide variety of foils on the market the properties of an individual foil should always be tested.
Cold-foiling	UVivid Flexo JD can be overprinted with the majority of cold foil adhesives available on the market.

Pre-production testing

UVivid Flexo JD is formulated to adhere to most major brand, top coated or corona treated, synthetic materials with surface tension levels of 38 dyne/cm or higher. However, it is strongly recommended that all substrates and blocking foils be tested before use in a commercial situation. Similar substrates can vary between manufactures, and between batches from the same manufacturer. Certain synthetics may be impregnated with lubricants, which may migrate and impair adhesion.

It is also recommended to thoroughly test for compatibility when overprinted, as ribbons, toners and pigments used by overprint technologies may vary from batch to batch.

The end-user must determine suitability of this product for the intended use prior to production.

Colour Range and Resistance Properties

The UVivid Flexo JD standard base colours are selected for their colour accuracy and strength so not all of the colours offer a high degree of resistance to outdoor weathering, direct exposure to sunlight or resistance to strong alkali or acidic materials.

To enable UVivid Flexo JD inks to cover as wide an application range as possible a selection of pigments with varying resistance properties are available. These are indicated in the table opposite.

Print conditions for the test stock

Press Nilpeter FA2500
 Anilox 5.5 cm³/m² 360 LPI
 Speed 50m/min
 Lamps 4 x 120watts/cm at 100%

Resistance Tests

Soap Resistance ISO2836:1999(E)
 Oil Resistance ISO2836:1999(E)
 Solvent Resistance ISO2837:1996
 Acid Resistance ISO11628:1995
 Alkali Resistance ISO2836:1999(E)

Resistance Scale

+ = Pass
 - = Fail

Lightfastness

The Lightfastness of the pigment is based on pigment manufacturers recommendations and refers to the Blue Wool Scale.

8 = Excellent
 1 = Poor

Lightfastness is dependent on the quantity of pigment in a blend and the thickness of the ink film. Therefore it is possible that in colour matches using low amounts of a colour, highly based back colours or thin film deposits that the lightfastness may be lower than indicated in the table above. The resistance of a colour match should always be based on the ink reference with the lowest resistance properties.

Where lightfastness is critical we recommend that the resistant colours be used. The use of UVivid RVA06 UV Protection Varnish can further enhance the lightfastness and external durability of a resistant print.

Resistant Colours

Resistant colours are designed to match as closely as possible the relevant standard shade. There is however only a limited choice of pigments suitable for this application so the shades may vary. Resistant colours may appear weaker and dirtier than a corresponding standard shade.

Colour ref.	Code	Soap	Oil	Alkali	Acid	Alcohol	Lightfastness
4 Colour Process							
Process Yellow	JD052	+	+	+	+	+	4
Process Magenta	JD135	-	+	-	-	+	4
Process Cyan	JD215	+	+	+	+	+	8
Process Black	JD004	+	+	+	+	+	8
Standard Base Colours							
Yellow	JD045	+	+	+	+	+	4
Orange	JD103	+	+	+	+	+	5
Warm Red	JD199	+	+	+	+	+	5
Red 032	JD097	+	+	+	+	+	8
Rubine Red	JD163	-	+	-	-	+	4
Rhodamine Red	JD125	-	+	-	-	-	5
Purple	JD237	-	+	-	-	-	4
Violet	JD127	+	+	+	+	+	7
Blue 072	JD254	-	+	-	-	-	3
Blue	JD260	+	+	+	+	+	7
Process Blue	JD240	+	+	+	+	+	8
Green	JD320	+	+	+	+	+	8
Black	JD001	+	+	+	+	+	8
Dense Black	JD009	+	+	+	+	+	8
Mixing Base	JD381						
Opaque White	JD025	+	+	+	+	+	8
Resistant Colours							
Resistant Yellow	JD064	+	+	+	+	+	7
Resistant Rubine	JD164	+	+	+	+	+	7
Resistant Rhodamine	JD165	+	+	+	+	+	7
Metallic Colours							
Silver	FL462	+	+	-	-	+	8
Rich Gold	FL489	+	+	-	-	+	8
Rich Pale Gold	FL461	+	+	-	-	+	8
Pale Gold	FL492	+	+	-	-	+	8

Additives

Product	Code	Application	Dosage
Flexo Thinner	ZE818	General use	1 - 10%
Special Thinner	ZEA06	Increases surface hardness	1 - 5 %
Trapping Additive	ZEA12	Improves levelling and improves trapping over standard silicone containing rotary screen Whites	1 - 2%
Cure Additive	ZE824	To improve cure if required	1 - 3%

Colour Management

Special colours can be supplied against prints or wet ink samples. A sample of the substrate to be printed, with the cell count and ink volume of the anilox used, should be attached to orders.

UVivid Flexo JD can be used to produce accurate simulations of the PANTONE® colours in the coated ('C' suffixed) section of the PANTONE® colour formula guide.

Sericol Formulation Guide

A booklet containing hand matched PANTONE® colour formula guide recipes given in percentages by weight. All recipes in the booklet are developed using a fixed film weight equivalent to a 5.5 cm³/m², 360 lpi (lines per inch) anilox.

A wide range of ink delivery and offline colour match proofing systems are also available to improve the efficiency of in-house press ready colour supply.

Curing

Excellent cure and adhesion are attained immediately upon curing; however maximum adhesion, chemical and mar resistance will be obtained 24 hours after initial curing.

Wash-up (Do not wash-up with any UV thinner)

Application	Product Reference	Product Code
To clean plates, rollers and other equipment.	General Cleaner	DFGC1
To remove deep-seated ink deposits from anilox rollers.	Apollo Deep Clean	DFDCL
For use in automatic solvent washout units.	Autowash Cleaner	DFAUT

Storage

Containers should be tightly closed immediately after use. At the end of long print runs surplus ink from the ink duct should be disposed of. Uncontaminated press returns should be stored under the same conditions as the unopened ink containers. In-house colour matches should be used within 3 months of the original date of blending. UVivid Flexo JD should not be stored in direct sunlight or near warm pipes and should be kept away from Peroxides. In the interest of maximum shelf-life storage temperatures should be between 10°C and 25°C. Inks and additives should not be stored in direct sunlight or extreme temperatures. Refer to Material Safety Data Sheet (MSDS) for materials and conditions to be avoided.

Shelf-life

4 Colour Process and Line Colours

When stored unopened in a cool environment all UVivid Flexo JD base colours are expected to have a shelf-life of 12 months from the original date of manufacture.

Metallic inks

When stored unopened in a cool environment all UVivid Flexo FL metallic colours are expected to have a shelf-life of 6 months from the original date of manufacture. If metallic inks are

incorporated into colour matches the blend may have a shelf-life of only a few days.

Safety and Handling

UVivid Flexo JD:

- Are formulated to be free from any chemicals toxic to health, carcinogenic, mutagenic or reprotoxic.
- All UV curing inks and varnishes contain acrylates. Acrylates, like any organic solvent, are skin and/or eye irritants. It is essential that the measures given in Section 8 of the Material Safety Data Sheet for this product are always followed.
- Comprehensive information on the safety and handling of UVivid Flexo JD is given in the appropriate Sericol Safety Data Sheet, available on request.

Environmental Information

UVivid Flexo JD:

- Does not contain ozone depleting chemicals as described in the Montreal Convention.
- Is formulated free from aromatic hydrocarbons which are known to have an adverse effect on the environment.
- Is free of any volatile solvent and is therefore beneficial to the environment when compared to solvent-based products.