

UVivid Flexo JD

UV Curing Flexo Printing Inks

PRODUCT INFORMATION

UVivid Flexo JD is a high gloss UV flexo ink system that incorporates a wide range of colours, process inks, metallic shades and specialist products.

Print Characteristics

UVivid Flexo JD inks produce outstanding printing results over a wide range of applications, conditions and substrates. UVivid Flexo JD inks have reliable intercoat adhesion and foil blocking properties with excellent flow and gloss characteristics over a wide range of press speeds.

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.

Curing

Adhesion is normally attained immediately upon curing; however maximum adhesion, chemical and mar resistance will be obtained up to 24 hours after initial curing.

UVivid Flexo JD752 Supernova White

UVivid Flexo JD752 Supernova White is an ultra opaque flexo white that can be used to replace rotary screen white in combination printing on clear filmic substrates. Obtaining high opacity requires the use of specialist high volume anilox rolls – see section entitled anilox rolls for further details.

The printing of fine text with JD752 is not generally recommended with high volume anilox rolls. Lower volumes will improve definition but this will be at the expense of opacity and lay of solid areas.

The use of high volume anilox rolls will lead to the need for frequent manual ink replenishment on most narrow web presses where ink pumping systems are not in use. Pumping systems can be employed to improve efficiency, but it is important that if JD752 is stored in bulk containers, a re-circulation system is used to keep the ink homogenous.

Combination Printing

UVivid Flexo JD inks can be printed over UVivid Rotary Screen RN034 Combination White without the addition of a trapping additive. Please note that as RN034 is

Main characteristics

Key benefits of UVivid Flexo JD include:

- Low viscosity press ready colours.
- High colour density.
- Adhesion to a wide range of synthetic substrates, including top coated PE & PP, PVC, PET, some thermal papers, metallised foils and most commonly available papers.
- Suitable for a wide range of applications including self-adhesive labels and unsupported films for sachets and pouches.
- Over-printable with thermal transfer ribbons and cold foil adhesives.
- Good hot foiling properties.
- PANTONE®* Matching Formulae available.
- Flexo sleeve white for shrink sleeve applications.

Substrates

Most grades of supported and unsupported synthetic label stock including PE, PP, PVC, TC-PE, PP, PS and PET. Most commonly available papers, thermal papers and some metallised foils.

Treatment Level

38-44 dynes/cm. Corona treatment may also improve adhesion and lay of the ink.

Finish

Gloss.

Plates and Tape

Most plates that are compatible with UV inks.

Doctor Blades

Reverse angle and chambered doctor blades. It is recommended that a doctor blade is always used.

Anilox Rolls

Ink Type	Line Count	Anilox Volume
Four colour process	900-1200 lpi	2.3-4 cm ³ /m ²
Process+ Black	350-1200 lpi	3.5-6.5 cm ³ /m ²
Pantone Colours	350-800 lpi	5.5 cm ³ /m ²
High Opacity Colours	HOC	HOC
White	150-250 lpi	12-20 cm ³ /m ²
Supernova White	HOW3	HOW3
Metallics	250-325 lpi	7-15 cm ³ /m ²
Varnish	150-350 lpi	6-10 cm ³ /m ²

Cure

160 watt/cm (400 watt/inch) bulb 100% power

Wash-up

Plates, rollers, ancillaries: DFGC1 General Cleaner
 Deep cleaning of anilox: DFDCL Deep Clean
 Automatic solvent wash out: DFAUT Autowash Cleaner

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silicone free, good housekeeping is required to avoid contamination. Further information is provided in the UVivid Rotary Screen RN034 product information sheet.

An addition of 2% ZEA12 Trapping Additive should be added to UVivid Flexo JD colours when used to overprint standard UVivid Rotary Screen RN White.

Pre-Production Testing

UVivid Flexo JD is formulated to adhere to most grades of top coated or corona treated filmic materials with surface tension levels of 38 dyne/cm or higher.

However, it is strongly recommended that all substrates and blocking foils are tested before use on a commercial run. Supposedly similar substrates can vary between manufacturers, and between batches from the same manufacturer.

Certain plastics may be impregnated with lubricants that, like plasticiser migration, may impair adhesion and block resistance.

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

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

Chemical and Abrasion Resistance

UVivid Flexo JD has excellent abrasion resistance and is resistant to most common chemicals.

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 alkaline or acidic materials. A range of resistant colours is available. Printers should ensure that the light fastness and resistance properties are appropriate for their application before starting a production run.

Colour Range

Colour Ref	Code	Soap	Oil	Alkali	Acid	Alcohol	Typical Blue Wool Rating
4 Colour Process							
Process Yellow	JD052	+	+	+	+	+	4
Process Magenta	JD135	-	+	-	-	+	4
Process Cyan	JD215	+	+	+	+	+	8
Process Black	JD004	+	+	+	+	+	8
Process+ Black	JD005	+	+	+	+	+	8
Standard Base Colours							
Black	JD001	+	+	+	+	+	8
Dense Black	JD009	+	+	+	+	+	8
Opaque White	JD025	+	+	+	+	+	8
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
Reflex Blue	JD260	+	+	+	+	+	7
Process Blue	JD240	+	+	+	+	+	8
Green	JD320	+	+	+	+	+	8
Mixing Base	JD381						N/A
Resistant Colours							
Resistant Yellow	JD064	+	+	+	+	+	7
Resistant Rubine	JD164	+	+	+	+	+	7
Resistant Rhodamine	JD165	+	+	+	+	+	7
Metallics							
High Lustre UV Flexo Silver*	JD462	+	+	-	-	+	N/A
Rich Pale Gold (Pantone 873)	FL461	+	+	-	-	+	N/A
Silver (Pantone 877)	FL462	+	+	-	-	+	N/A
Rich Gold (Pantone 871)	FL489	+	+	-	-	+	N/A
Whites							
Supernova White	JD752	+	+	+	+	+	8
UVivid Flexo Sleeve White	JDSWH	+	+	+	+	+	8
Special White	JDA01	+	+	+	+	+	8

Available in 5 kg containers.

*Not over-printable

Print conditions for the test stock:

Press: Nilpeter FA2500
 Anilox: 5.5 cm³/m² 360 LPI
 Speed: 50m/min
 Lamps: 4 x 120 watts/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

Blue Wool Rating

8 = Excellent, 1 = Poor

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 resistant colours may appear weaker and dirtier than a corresponding standard shade.

Light Fastness

The light fastness of the pigments quoted in this product information sheet is based on pigment manufacturers' recommendations and refers to the Blue Wool Scale. Light fastness of an ink is dependent on the quantity of pigment in a blend and the thickness of the ink film. It is possible in colour matches using low amounts of a colour, highly based back colours or thin film deposits that the light fastness may be lower than the value quoted. The resistance of a colour match should always be based on the ink reference with the lowest resistance properties. Where light fastness is critical, we recommend that the resistant colours are used.

Fujifilm Formulation Guide

A booklet is available containing hand matched PANTONE® colour formula guide recipes given in percentages by weight. All recipes in the booklet were 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.

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.

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 the Safety Data Sheet for materials and conditions to be avoided.

Shelf Life**4 Colour Process and Line Colours:**

When stored unopened and under the recommended storage conditions, UVivid Flexo JD base colours are expected to have a shelf life of 12 months from the original date of manufacture. In-house colour matches should be used within 3 months of the original date of blending.

Metallic Inks:

When stored unopened and under the recommended storage conditions, all UVivid Flexo FL metallic colours are expected to have a shelf life of 12 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.

Additives

Product	Code	Application	Dosage	Pack Size
Flexo Thinner	ZE818	General use	1 - 10%	5 ltr
Trapping Additive	ZEA12	Improves levelling and improves trapping over standard silicone containing rotary screen whites	1 - 2%	1 ltr
Cure Additive	ZE824	To improve cure if required	1 - 3%	1 kg

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, metallic 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.

Fujifilm Speciality Ink Systems Limited:

- Has certification to the International Environmental Standard, ISO 14001.
- Has certification to the Quality Management Standard, ISO 9001.
- Has certification to the Occupational Health and Safety Standard, OHSAS 18001.
- Is committed to minimising the risk to users of our products, and also to minimising the impact of our activities on the environment, from formulation through to production and supply.
- Research and development team, work to an in house Health, Safety and Environmental policy, termed 'Design for Health, Safety and Environment', with the aim of proactively developing products with the least impact on health, safety and the environment.
- Regularly review and monitor our impacts and activities, setting objectives and targets as part of a continual improvement process.
- Is committed to reducing waste through better use of raw materials, energy, water, re-use and recycling.

Safety and Handling

UVivid Flexo JD:

- Is formulated to be free from any chemicals toxic to health, carcinogenic, mutagenic or reprotoxic according to Directive 67/548/EC.

- Has a flashpoint greater than 60°C and is therefore not classified as "dangerous substance" under the Dangerous Substances and Explosive Atmospheres Regulations (DSEAR).
- For optimum shelf life, all products should be stored at moderate temperatures, between 5°C and 30°C. Storage outside of these temperatures may lead to deterioration in the performance of the product.

Comprehensive information on the safety and handling of UVivid Flexo JD inks and additives is given in the appropriate Safety Data Sheets.

Environmental Information

UVivid Flexo JD:

- Does not contain ozone-depleting chemicals as described in the Montreal Convention.
- Is formulated free from aromatic hydrocarbons.
- Is free from any volatile solvent and can therefore be considered to have less impact on the environment when compared to solvent-based products.

The information and recommendations contained in this Product Information sheet, as well as technical advice otherwise given by representatives of Fujifilm Speciality Ink Systems Limited and its associated companies, whether verbally or in writing, are based on our present knowledge and believed to be accurate. However, no guarantee regarding their accuracy is given as we cannot cover or anticipate every possible application of our products and because manufacturing methods, printing stocks and other materials vary. For the same reason our products are sold without warranty and on condition that users shall make their own tests to satisfy themselves that they will meet fully their particular requirements. Our policy of continuous product improvement might make some of the information contained in this Product Information sheet out of date and users are requested to ensure that they follow current recommendations.

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