



Evolution Series 2 NX System

The "NX System" is the newest generation of Lancer Group International's PVC-free and phthalate-free textile ink system. Improvements over previous formulations include increased washfastness, crock-resistance, inter-coat adhesion between colours and a vastly lower cure temperature. Lower cure temperatures help resist dye migration on cotton/polyester blends and 100% polyester garments as well as providing substantial energy savings. The new formulation retains Evolution Series 2's advantages over other PVC/phthalate-free ink systems by offering printers a hand-feel similar to water-based inks with all the conveniences of plastisol ink properties including opacity and colour consistency. High resolution designs printed through fine meshes are no problem as stencils stay open throughout the entire print run because the ink will not air-dry and requires a full heat cure. Unlike previous generations, the NX System yields excellent results in the production of cold peel transfers.

Components

NX6581 Optical White— Easy-printing, ready-for-use white ink that can be used as an underbase, stand-alone or highlight white. Optical White can be printed through meshes ranging from 80/inch—355/inch (32T-140T). Combined with its low-cure temperature, Optical White produces bleed-resistant results on many fabrics containing polyesters when curing parameters are followed.

NX6710 Defender— A ready-for-use first down grey that filters out polyester dyes that may sublimate and cause dye migration in finished prints. It works especially well on troublesome 100% polyester fabrics. Recommended mesh ranges to print Defender are 80/inch-120/inch (32T-48T).

NX6711 Defender Black—When Defender Gray is not enough to stop dye migration Defender Black works to block migrating dyes on the nastiest of 100% polyester fabrics. High viscosity formulation helps print sit on top of the fabric better helping block dye migration even more. Recommended mesh ranges to print Defender are 80/inch-120/inch (32T-48T).

NX6504 Mixing Base— A medium opacity mixing base to be used with Evolution Series 2 Pigment Concentrates to produce Pantone® simulations or custom colours. It is designed for printing on white or light coloured garments and as a top coat on Optical White when it is used as an underbase on dark-coloured garments. 110/inch-355/inch (43T-140T) mesh is recommended. Mesh size should be determined after pigment concentrates are mixed into the appropriate base and after consideration of artwork and desired end result of decoration.

NX6505 Process Base— A soft-hand base to be used with Evolution Series 2 Pigment Concentrates to produce CMYK process colours for printing on white or light-coloured fabrics. Mesh counts as fine as 355/inch (142T) can be used to produce soft, high-resolution prints.

NX6700 Clear Metallic Base—Clear base to mix glitter and metallic particles to produce special-effects enhancements to designs.

For more information about this product, please visit us online at www.lancergroup.com or send us an email to lgsales@lancergroup.com

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NX6835 High-Density Base—A special-effects base used to produce finished colours with the Evolution Series 2 Pigment Concentrates. Combined with a 200-700 micron capillary film stencil on the print side of the screen, NX6835 produces a thick, three-dimensional print. 80/inch-110/inch (32T-43T) yields excellent results.

NX6500 Black—Ready-for-use black with same mesh and printing parameters as colours made from NX6504. Base.

NX6551 ColorPro Colour Mixing System— A ready-for-use mixing system consisting of 11 components and five Booster Colours for simulating Pantone® or custom shades. 110/inch-355/inch (43T- 140T) mesh is recommended. Mesh size should be determined after pigment concentrates are mixed into the appropriate base and after consideration of artwork and desired end result of decoration.

NX6600 Four-Color Process Series—Produces CMYK designs on white and light-colored garments. 110/inch-355/inch (43T-140T) mesh is recommended.

NX6533 Collegiate Colours—High-opacity ready-for-use colours for direct printing. High-opacity prints are easily achieved through mesh counts between 80/inch-230/inch (32T-92T).

Evolution PC Pigment Concentrates— A set of highly concentrated pigments to be used in conjunction with all Evolution Series 2 NX System bases. Pigments are extremely concentrated resulting in finished colours being made with as little as 10% pigment to base ratio. At no time should the pigment to base ratio exceed 15% as this can lead to curing, crocking and durability issues in the finished print.

NX6390 Viscosity Reducer— A reducer that can be used to lower viscosity, or, as a print softener in all finished NX System inks. Increments of up to 3% by weight can be added to finished inks without affecting the cure or colour strength.

NC7000 Low-Crock Additive— If additional pigment crocking resistance is required NC7000 can be added in amount up to 10% by weight. In conditions where the inks will be stored in temperatures above 80°F (28°C) only enough ink that can be used within a 24 hour period should be mixed as NC7000 will cause inks to thicken. If stored at temperatures below 80° F (28°C) the mixed ink may last up to 7 days before it shows signs of thickening. It is not necessary to add NC7000 to NX6581 Optical White or NX6710 Defender as both are ready-for-use products.

Technical Information Direct Printing

Mesh—See recommended mesh sizes for each individual component in the Components section

Gel Temperature— Both Optical White and Defender will gel and allow top coat colours to be printed without smearing when the surface of the ink film reaches 220°-230°F (104°-110°C).

Curing— When printing on fabrics constructed of 100% cotton or 50/50 cotton/polyester blends, NX System inks fully cure when the entire ink film reaches 275°-300°F (127°-138°C) for 1 1/2-2 minutes inside the drying chamber.

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Curing (cont.)

Because higher temperatures can trigger dye migration on dark-colored fabrics constructed of 100% polyester, best results are achieved when the ink film temperature is lowered to between 260°-280°F (127°-138°C) for 1 1/2 - 2 minutes in the drying chamber. Even at these lower temperatures there is no guarantee that dye migration will not occur on on troublesome fabrics. Testing is required to determine if NX6710 Defender Gray or NX6711 Defeder Black should be used to block dye migration from these fabrics. Unlike previous versions of Evolution Series 2, wash testing to determine if ink film is fully cured can be done immediately.

Modification—See instructions for using NX6390 Viscosity Reducer and NC7000 Low-Crock Additive in the **Components** section of this Technical Data Sheet.

Mixing— Do not overload bases with pigments. Evolutions 2 pigments are highly concentrated.

Recommended pigment loads in the appropriate base is 10% by weight and at no time should ever exceed 15%. Over-pigmentation of base could result in crocking, curing problems and durability issues. Colour accuracy should be evaluated by printing through same mesh size on like substrate after completely curing the ink film. Unlike previous versions of Evolution Series 2, crock testing can be done immediately.

Technical Information Transfer Printing

Cold Peel PVC/phthalate free transfers to be applied on 100% cotton, 50/50 cotton/polyester blends and 100% polyester fabrics are possible with NX Series inks. Tagless labels and sport transfers for performance wear are also excellent applications for this product.

Paper—Transfilm 100 micron clear film, Transfert 75 (T-75) or T-105 paper produce excellent cold-peel transfers. Transfilm 100 produces a very smooth, soft surface along with a matte finish.

Mesh—80/inch-230/inch (32T-90T) provides excellent results. Choice of mesh will be dependent upon detail and opacity required in finished decoration.

Printing Techniques Transfers

White or Light-Coloured Garments-- Print and cure each colour individually. When the last colour has been printed and cured, back the entire image with NX6505 Base. While the ink is still wet, sprinkle H1 Superhold Adhesive Powder over entire image. Fully cure transfer at 275°-300°F (135°-149°C).

100% Cotton Dark Garments—Print and cure each colour individually. When the last colour has been printed and cured, back the entire image with NX6581 Optical White. While the ink is still wet, sprinkle H1 Superhold Adhesive Powder over the entire image. Fully cure transfer at 275°-300°F (135°-149°C).

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Printing Techniques Transfers (cont.)

50/50 Cotton/Polyester Blends (all colours) or 100% Polyester Dark Garments—Print and cure each colour individually. When the last colour has been printed and cured, back the entire image with NX6710 Defender Grey Dye Blocker. While the ink is still wet, sprinkle H1 Superhold Adhesive Powder over the entire image. Fully cure transfer at 275°-300°F (135°-149°C).

Application of Transfer to Garment— Apply to garment using a conventional heat press for 8-12 seconds at 275°-300° F (135°-149° C) and peel release paper from the garment after the transfer has completely cooled.

Certifications

The Evolution Series 2 NX System has been certified by a third-party testing laboratory to meet all OKEO-Tex 100 and REACH standards established by the European Union for “next to skin” decorations. The NX System is Nike RSL approved. Test results verifying these certifications that all components used to produce the NX System are PVC-free, phthalate-free and lead-free are available upon request.

Storage

The NX System produces best results when the inks are stored at temperatures less than 30°C and 84°F. Extended storage in warmer conditions can cause inks to thicken.

Caution

Always test finished prints for color accuracy, curing, adhesion, opacity, bleed-resistance and desired look prior to beginning full production runs. Lancer Group International cannot guarantee the results or back claims that this ink will test PVC-free or phthalate-free if any pigment or additive other than an Evolution Series 2 pigment or additive that has been manufactured by Lancer Group International is used in this ink. Contamination can also occur from mixing tools, mixing buckets, spatulas, squeegees, or flood bars that have had prior contact with inks containing PVC's or phthalates and these tools must be thoroughly cleaned before using with the NX System.

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