

97 SERIES

Thermoformable UV Graphic Ink

Product Statement and Key Features:

AFFORD 97 Series are 100% UV curing inks, designed for a wide range graphic and industrial graphic applications.

Printed inks exhibit a high gloss finish and a high degree of elongation and are suitable for some thermoforming applications.

The inks are formulated with diverse pigments in order to accommodate to different light-fastness requirements. There are ranges of colors whose prints will exhibit excellent outdoor durability.

Suitable for most grades of PVC, Acrylic, PET.

97 Series Technical Data:

AFFORD 97 Series 100% UV curing inks are formulated to meet the demands and expectations of printers serving the graphic and industrial graphic marketplace.

Applications:

97 Series inks have been formulated to meet a wide range of display and industrial graphic end user markets.

The inks have been designed to provide maximum reliability and stable optimum colour consistency over long print production runs. Suitable for use on all print machines, including multi-colour print lines.

97 Series inks offer unlimited screen stability, the absence of rewetting and blocking problems and the benefit of atmospheric and workplace environmental advantage.

Printing and Curing Information:

Mesh selection is critical for optimum results, monofilament polyester meshes in the range 140T - 165T are recommended, image type and fabric will dictate the most appropriate mesh grade, please consult with AFFORD technical services for further guidance, coarser mesh grades 120T - 140T can be used for metallic shades and the use of coarser mesh grades and twill weave fabrics will result in heavier ink deposits that will require additional curing.

Most stencil types are suitable, 11.170 (photopolymer) or 11.701 (diaz) available from AFFORD are recommended.

Curing guidelines are based on modern UV curing units, actual curing speeds depend on several factors, including ink film thickness, opacity, the number and type of UV lamps used, together with the lamp emission spectrum, power output and lamp efficiency, if in doubt, please consult with AFFORD technical services for support and guidance.

Pre-Production Testing:

Some grades of plastics are manufactured using lubricants that can be retained within the material, it is therefore essential that material and the printed ink film are tested for suitability and any test print is given time to fully cure to ensure full functional performance is achieved and it is the user's responsibility to confirm that the ink fully cures under the chosen conditions prior to commencing with a full production run.

Post Curing:

The UV curing process is a chemical reaction, which is initiated when the printed inks are passed through a suitable UV dryer, once initiated the curing and cross-linking process will continue for 24 hours or more after the prints have exited the dryer. This ongoing reaction can adversely affect the performance of the ink, in respect of intercoat adhesion between printed layers, and may also compromise flexibility. Care is advised to ensure that the first and subsequent printed layers are not overcured, assessment at regular intervals during a production run is recommended.

Coverage:

A coverage of 90 sqm/kg would be expected with Process colours, when printed using a mesh of 150-34. With White(s) due to higher density of pigmentation a coverage of approx. 65 sqm/kg can be expected with the same mesh.

Flexibility:

97 Series inks have excellent flexibility characteristics and are formulated to meet the demands of the graphic display and industrial markets. When printed on suitable materials, several layers of superimposed ink can be print finished (for example with guillotines) without cracking or flaking.

Outdoor Durability:

97 Series Inks have been formulated in lightfast and non-lightfast colours. 97 series have been tested in a Q-UV tester, data given below represent the maximum expected outdoor life, when printed on a premium outdoor grade of self-adhesive PVC.

002 PROCESS YELLOW 15 months
005 PROCESS MAGENTA EXTRA 48 months
006 PROCESS BLUE 60 months
009 PROCESS BLACK 60 months
052 PROCESS MAGENTA 9 months
110 EXTRAOPAQUE WHITE 60 months

Post Print Processing:

97 series inks offer an excellent equilibrium between curing, elasticity, and tack-free final prints. The temperature and the time for the forming pressure will depend on the substrate, its thickness and the inclination of the walls. With the proper parameters, excellent results, even with vertical walls can be achieved.

Thinning and Wash Up:

97 Series inks are formulated as ready for use, however if thinning is deemed necessary to improve flow 5% of 80.016 flexible thinner by weight can be used

Washing up of screens should be carried out using Afford 52.204 UV Cleaner.

Storage:



97 Series inks should be stored at temperatures between 10-25°C with a relative humidity between 30 to 70%.

Safety Information Handling Instructions & Shelf Life:

Ink and cleaning solutions should always be kept away from heat, sparks, and flames. If stored or transported at a different temperature, the ink should be allowed to reach room temperature before calibration or printing. This may have an adverse effect on performance and will affect any warranties given by Afford Industrial

Recommended shelf life of this product is 24 months from the date of manufacture when stored under preferred conditions.

Colour Range Table as per Spanish Version:

 000 - TRANS-PARENT BASE	 005 - PROCESS MAGENTA EXTRA	 006 - PROCESS BLUE	 009 - PROCESS BLACK	 024 - PROCESS YELLOW EXTRA	 110 - EXTRA WHITE OPAQUE	 204 - EXTRA YELLOW	 339 - ORANGE EXTRA
 404 - EXTRA RED	 500 - MAGENTA EXTRA	 600 - PERMANENT BLUE	 700 - VIOLET	 800 - PERMANENT GREEN			

Any other color can be prepared on request

Afford Quality Statement:

Afford Industrial S.L. assures the quality of this product. AFFORD cannot, however, guarantee the finished results because AFFORD exercises no control over individual operating and production procedures. While technical information and advice on the use of this product is provided in good faith, the user bears sole responsibility for selecting the appropriate product for their end use requirements. Users are also responsible for testing to determine that our product will perform as expected during the printed item's entire life cycle from proofing, printing, post print processing, and shipment to end use. This product has been specially formulated for use with the printing process indicated within the technical information, and it has not been tested by any other method. Any liability associated with the use of this product is limited to the value of the product purchased from Afford Industrial, S.L.

Support:

Afford Industrial are a company with international sales coverage, and as such can offer technical, engineering and sales support to our customers worldwide. If you require more information regarding this product, or any of our extensive range of products for screen, pad, digital, flexo and gravure print processes, please contact your local sales representative.

Disclaimer:

All information on this data sheet is based on laboratory tests carried out by Afford Industrial S.L. and from end user experience in print shops. Procedures and directions for use of Afford Industrial products (including printing and after-treatment) must be considered as recommendations only, with no warranties expressed or implied. The user of the products described herein is solely responsible for determining suitability of any Afford Industrial product(s) for the chosen application. Afford Industrial recommends that all products be pre-tested prior to full-scale production use. Also, the user must make sure he complies with the current legislation situation of patents and third party rights when applicable. This data sheet supersedes all previous publications. January 2021

