

80.00.04187  
80.00.05248  
99.00.05992

## High Viscosity Relief Printing Varnishes

### Product Statement and Key Features:

AFFORD 80.00.04187, 80.00.05248 & 99.00.05992 are 100% UV Curing Varnishes designed to produce a high build relief print.

- Fast Curing
- Low Odour
- Unlimited Screen Stability
- Negligible Atmospheric Pollution
- 80.00.04187 is the cost effective option
- 80.00.05248 and 99.00.05992 are highly transparent.
- 99.00.0599 recommended where a high degree of flexibility is required

### Scope of Use:

Specialist screen printable relief varnishes designed to produce braille characters for the visually impaired or to simulate a 3D printed effect.

### Special Effects:

Special effects, metallic, fluorescent and phosphorescent can be achieved with the addition of suitable pigments available from AFFORD, % addition and other usage guidelines are available on request from AFFORD Technical Services, adjustment in UV curing conditions will be required to ensure adequate through cure when using special effects in combination with either 80.00.04187, 80.00.05248 or 99.00.05992. Sometimes, printers combine these varnishes to fit better for their needs.

### Printing and Curing Guidelines:

These guidelines are intended only as a starting point for determining cure parameters, which must be determined under actual production conditions.

“Undercuring” the ink may result in poor adhesion, lower scuff resistance, reduced durability, and higher residual odour.

“Overcuring” the ink may reduce the flexibility of ink surface and the printed part and adhesion of subsequent ink layers.

### Printing and Curing Guidelines:

These inks cure when exposed to a single medium pressure mercury vapour lamp meeting the following criteria:

- 120+ mJ/cm<sup>2</sup> @ 600+ mW/cm<sup>2</sup>

Mesh selection is critical for optimum results, meshes in the range 43T - 110T are recommended, image type and fabric will dictate the most appropriate mesh grade, please consult with AFFORD technical services for further guidance

Inks can be affected by stray UV light. Be aware of skylights, windows and overhead lights curing the ink in the screen; light filters are recommended.

Leaving a container uncovered may result in the ink's surface forming a "skin", caused by reaction with ambient lighting. Keep containers covered.

Most stencil types are suitable. 11.170 (photopolymer) is specially recommended to have thick walls due to its high solid content.

It is essential that the printed ink film is given time to fully cure to ensure full chemical and mechanical resistance is achieved and it is the user's responsibility to confirm the cure schedule by testing resistance properties and suitability prior to commencing a full production run.

## Post Curing:

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The chemical reaction initiated by UV radiation will continue for some time after initial exposure and the dried prints emerge from the dryer.

It is therefore important that the adhesion of the first colour down, and all subsequent overprint colours, is assessed at regular intervals.

## IMPORTANT:

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Stir inks well before every use.

Always test application fully before beginning any production run as supposedly similar surfaces can vary between different manufacturers, and even between different batches.

## Thinning and Wash Up:

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AFFORD High Viscosity High Build Varnishes are supplied ready for use; however, inks can be adjusted to suit print shop conditions and print speeds if necessary, with the addition of 1-10% by weight of 80.008; in case of white inks, 80.005 is the recommended thinner.

Washing up of screens should be carried out using 52.001 Screen Cleaner.

## Storage:

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

## Safety Information Handling Instructions & Shelf Life:

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Users are advised to wear gloves and barrier cream to prevent direct skin contact.

Safety glasses are suggested in areas where ink may be splashed. If ink does come in contact with skin, wipe ink off with a clean, dry cloth (do not use solvents or UV reducers).

Wash the affected area with soap and water.

Consult the applicable Safety Data Sheet (SDS) for further instructions and warnings.

This ink series is a one-part, 100% solids UV-curable screen-printing ink and does not contain N-vinyl 2 pyrrolidone (NVP) or N-vinylcaprolactam (NVC/NVCL)

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.

## Environmental Information:

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80.00.04187, 80.00.05248 & 99.00.05992 varnishes are formulated to be free from aromatic hydrocarbons and any volatile components and can therefore be considered to have a lower impact on the environment, when compared with solvent based products, the inks do not contain any ozone depleting chemicals as described in the Montreal Convention.

## Afford Quality Statement:

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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:

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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:

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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

02/2021

The information provided corresponds to our knowledge today; It is given in good faith but without guarantee. In addition, taking into account the wide variety of materials to print, the various equipment and procedures to realize it is your responsibility to check the validity of our products to achieve the goals that he intends, with the means and procedures he has.

Similarly, the user must ensure compliance with current regulations, patent situation and rights of third parties where appropriate.