

Vynaglaze APR 4700 series**SunPromo® Graphic Screen
Printing Inks****1. Description**

Vynaglaze APR 4700 series screen inks have been formulated to give a high gloss finish on a wide range of PVC and other plastic substrates. Featuring exceptional flexibility, exterior durability and a high degree of alcohol and petrol resistance makes these inks ideal for the production of self-adhesive window stickers, labels, vehicle markings and forecourt advertising, including acrylic signs. Vynaglaze APR 4700 series inks are suitable for all types of screen printing equipment, from fast, fully automatic machines to manual presses. The inks are complemented by a range of thinners and retarders to give optimum drying properties and press stability.

2. Product Features*

- Very high gloss solvent based inks
- Adhesion to a wide range of plastic substrates
- Excellent flexibility and high elongation
- High degree of resistance to alcohol and petrol
- Suitable for fully automatic machines and manual presses
- Suitable for vacuum or drape moulding

*Specific application performance data, where available can be provided by your Sun Chemical representative.

3. Product Suitability***3.1 Applications**

Vynaglaze APR 4700 series inks are ideally suited for use on PVC and other plastic substrates when a high gloss finish is required. Vynaglaze APR 4700 series inks find many uses in applications such as self-adhesive window stickers, labels, vehicle markings and forecourt advertising including acrylic signs. Vynaglaze APR 4700 series inks can also be used in a number of industrial applications such as automotive appliques, fascia panels, nameplates and high tech labels.

3.2 Substrates

Vynaglaze APR 4700 series inks are suitable for a wide range of rigid and flexible grades of PVC. However, some flexible PVCs may contain large proportions of plasticiser which often migrate to the surface and impair ink adhesion. Other grades are calendered for extra gloss and surface smoothness and the lubricants used in this process may also reduce adhesion. For these reasons it is always advisable to assess adhesion before starting a print run by making a test print on the actual batch of plastic to be used.

Vynaglaze APR 4700 series inks can also be used on acrylic sheet, polycarbonate and treated polyester. Any surface adhesive used to hold protective papers in place should be removed according to the manufacturer's recommendations. When printing on polycarbonate the use of special thinner or retarder is required to prevent the possibility of crazing.



3.3 Exterior Durability

Vynaglaze APR 4700 series inks have been tested in accordance with BS4781: 1990: 'Specification for Self Adhesive Plastic Labels for Permanent Use' and exceed the requirements for colour fastness and performance of legend. All pigments have been selected to have a rating of 7-8 on the Blue Wool Scale. In addition, accelerated weathering tests conducted in accordance with BS3900 Part F3 indicate an expected outdoor life of up to five years for full strength colours. An overprint varnish is not required or recommended.

Accelerated weathering tests simulate exposure in a middle European climate (Zone 1). It is essential to note that many arbitrary factors will affect the outdoor durability of all inks including tint strengths, proportion of white, degree of reduction, climate and position etc.

For more information and guidelines on general outdoor durability, please refer to the Sun Chemical product weathering statement for SunPromo® graphic inks.

*Please refer to your local Sun Chemical representative for specific details.

3.4 Flexibility

Vynaglaze APR 4700 series inks are extremely flexible and are suitable for the most stringent demands of multicoloured work, both single and double-sided, where several layers of ink are overprinted.

3.5 Forming

Vynaglaze APR 4700 series inks are suitable for vacuum or drape moulding. The ink film softens under the influence of heat and stretches with the plastic. On cooling to room temperature, the ink film regains initial hardness. Because of their thermoplastic nature, these inks should not be used for plug or die-assisted moulding, where the tool is liable to contact the ink film. Care should also be taken in vacuum or drape moulding if the ink film is to come into contact with the mould.

3.6 Resistance

Vynaglaze APR 4700 series inks have been formulated to be resistant to alcohol and petrol and exhibit excellent resistance to these solvents. Vynaglaze APR 4700 series inks also exhibit prolonged resistance to water, salt water, high humidity and temperature change and are therefore ideal for use in numerous outdoor decal applications such as automotive, maritime and aviation.



4 Product Range

Vynaglaze 4700 series inks			
Primrose	47Y30	Black	47N50
Golden Yellow	47Y50	White	47W50
Orange	47O50	Extender Base	47E50
Scarlet	47R20	Opaque White	47837
Red	47R50	Dense Black	47797
Magenta	47M50	Matt Base	47907
Violet	47V50	Overprint Varnish	4795
Blue	47B50	Silver	4788
Green	47G50	Gold Medium	4794
Vynaglaze 4700 series reducers			
Thinner	TS16	Special Thinner	TS23*
Retarder	TS17	Special Retarder	TS15*
Slow Retarder	TS61	*For use on polycarbonate substrates	

4.1 Colour Range

Vynaglaze APR 4700 series inks are available in the SunMatch colour range of 9 strong, bright mono-pigmented shades which together with black, white and extender base form a complete ink blending and mixing system. The SunMatch blending system allows mixing of practically any colour, including Pantone®, RAL and HKS and is fully compatible with Formulator ink and colour match management systems.

The Vynaglaze APR 4700 series ink range also includes an opaque white and dense black for specialist applications, although these products do not feature the high gloss exhibited by the SunMatch blending colours.

There is also a bright silver and a metallic medium which can be used to produce infinite metallic shade variations when mixed with 'silver' or 'gold' pastes and SunMatch colours as tints.

The matt base can be used to reduce the high gloss finish should a satin or 'eggshell' finish be required.

For further information on Pantone® and other colour specification systems and access to validated formulations for many colours in the Pantone® colour guide or Formulator ink management products, contact your local Sun Chemical branch or distributor.

* Pantone Inc.'s check standard trademark for colour

5. General Handling

5.1 Storage and Shelf Life

Vynaglaze APR 4700 series inks should be stored in closed metal containers at temperatures between 5-32°C. Vynaglaze APR 4700 series inks, excluding metallic shades, when stored appropriately will have a shelf life of up to 5 years.

For more specific handling advice refer to the Safety Data Sheet.

6. Printing Conditions*

6.1 Drying

Vynaglaze APR 4700 series inks normally dry well through normal jet dryers with good air movement at 40°C to 80°C and are also suitable for rack drying. The evaporation rate is decreased by additions of retarder, so adequate drying should be ensured when retarders are used.

6.2 Viscosity Reduction

Vynaglaze APR 4700 series inks are highly versatile because differing thinners / retarders can be used for specific printing conditions. Additions of up to 40% Slow Thinner TS16 should be made for printing at the highest speeds, whereas addition of 15-30% of Retarder TS17 for is recommended semi-automatic or hand bench work.

For cylinder press printing, reduction to low viscosity is recommended ensuring optimum print performance. For the most demanding conditions, i.e. hot print-shops etc., where optimum screen stability is required, Vynaglaze Slow Retarder TS61 can be used. These thinners may be used together in any proportion for specific printing and drying requirements.

When printing on polycarbonate, Thinner TS23 or Special Retarder TS15 should be used to ensure dried prints to not exhibit crazing.

6.3 Printing Materials

High quality stencil materials such as those in the SunCoat range are recommended for best results. Technical Data Sheets and detailed specialist advice on choice of emulsions, films and all related stencil products can be obtained from your local Sun Chemical branch.

Fine polyester mesh with a mesh count of 77 – 120 threads/cm and a medium/hard sharp polyurethane squeegee should be used.

6.4 Coverage

Up to 50 m²/kg may be expected, but coverage is dependent on a number of printing factors including, mesh choice, stencil thickness, ink reduction, squeegee, etc.

6.5 Washing Up

Commercial screen cleaners, such as those in the SunCoat range are recommended for best results. Product Data Sheets and advice on the SunCoat range of screenwashes is available from your local Sun Chemical branch.

*Please refer to your local Sun Chemical representative for specific details.



7. End-use safety

7.1 Handling

Vynaglaze APR 4700 series inks should be used in accordance with normal standards of industrial hygiene. Please refer to the information provided on product labels and relevant Safety Data Sheets.

7.2 EN71-3:2013 Safety of Toys – Migration of certain elements

These inks have been formulated to comply with the requirements of toy standard, EN 71-3:2013 Safety of toys – Migration of certain elements (category III: scraped off material). However, inks are supplied without warranty due to risk of contamination throughout the many processing steps from raw materials to finished toy. To ensure conformity, analysis, is therefore essential (note that the legislative limits apply to the toy itself and not to the wet ink as supplied). Please refer to our company statement concerning inks for toys. For further compliance confirmation and advice please refer to your local Sun Chemical branch.

7.3 Food Contact

Sun Chemical cannot guarantee the suitability of any of its products for use where direct or indirect food contact may occur.

7.4 EuPIA

Vynaglaze APR 4700 series inks are formulated in accordance with the EuPIA exclusion policy for printing inks and related products. In particular, this excludes from use all materials classified according to the CLP Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures as carcinogenic, mutagenic or toxic for reproduction in categories 1A or 1B with hazard statements H340, H350 or H360, in addition to toxic or highly toxic materials with hazard statements H300, H301*, H310, H311*, H330, H331, H370 or H372* (* may be permitted if safe use can be demonstrated following risk assessment). Pigments based on compounds of Sb, As, Cd, Cr (VI), Pb, Hg, Se, certain dyes, solvents, plasticisers and miscellaneous materials are also excluded.

8. Technical Assistance / Contacts

For further information, please contact your local Sun Chemical team.

Our Products are intended for sale to professional users. The information herein is general information designed to assist customers in determining the suitability of our products for their applications. All recommendations are made without guarantee, since the application and conditions of use are beyond our control. We recommend that customers satisfy themselves that each product meets their requirements in all respects before commencing a print run. There is no implied warranty of merchantability or fitness for purpose of the product or products described herein. In no event shall Sun Chemical be liable for damages of any nature arising out of the use or reliance upon this information. Modifications of the product for reasons of improvements might be made without further notice.

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