

SunStrato® Duraflex PF

From the SunStrato® family of lamination inks

1. Description

Duraflex PF is a premium flexo solventbased multi substrate laminating system.

2. Product features*

Duraflex PF inks:-

- Have high bond strength on a variety of films when used in combination with correct adhesive
- Have excellent flexo printability
- Have very high heat seal bonds
- Are suitable for the printing of polyester, nylon (opa) and polyethylene
- Have low retained solvent levels when dried correctly
- Do not contain TDI or any organo tin compounds.
- Suitable for processing temperatures up to 100°C – pasteurisation

3. Product Suitability*

3.1 Applications

Duraflex PF is intended for use in the following areas:

- High performance lamination with processing temperatures up to 100°C
- Adhesive lamination - both solvent based & solvent free technologies

Duraflex PF should not be used for other end uses without prior discussion with your local Sun Chemical representative and is not suitable for:

- Direct food contact
- Applications in which the processing temperature exceeds 100°C

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



3.2 Substrates

Duraflex PF is suitable for the following substrates:

| Primary Web | Secondary web |
|--------------------------------------|--------------------|
| Corona treated polyester | Aluminium |
| | Cast PP / coex OPP |
| | PE |
| Chemically treated polyester | Aluminium |
| | Cast PP / coex OPP |
| | PE |
| PVdC coated polyester ⁽¹⁾ | PE |
| Treated PA-Nylon | Aluminium |
| | Cast PP / coex OPP |
| | PE |
| Treated OPP (OCT) ⁽²⁾ | Met. films |
| | Cast PP / coex OPP |
| | PE |
| Treated OPP (OT) ⁽²⁾ | Met. films |
| | Cast PP/ coex OPP |
| | PE |
| OPP acrylic coated (**) | PE |
| | Cast PP |
| | OPP coex |
| OPP PVdC coated ⁽¹⁾ | Cast PP / coex OPP |
| | PE |
| PE treated | PE |

(1)Check the ink film combination before printing

(2)To obtain direct adhesion on these substrates add at press 1–2 % Adhesion promoter

(**) Printing on acrylic coated surfaces is only possible when **specifically** formulated using **ether-glycol free** formulations. Please refer to your local Sun Chemical representative before using.

Please note that lamination bonds are good even if direct adhesion is not obtained and that all information given here is for indication of potential uses only and detailed information is available from your local Sun Chemical representative.

3.3 Adhesives

Duraflex PF printed films may be laminated with a number of suitable solvent-based and solvent-less adhesives. The actual bond strengths achieved will depend greatly on the choice of substrate, adhesive and applied film weights of both inks and adhesive. It is recommended that rigorous tests be carried out before commencing any commercial trials. Sun Chemical can provide assistance to confirm suitability however it is recommended that all ink / substrate specifications are tested against appropriate regulatory standards and test methods.



4. Colour Range

Duraflex PF inks are available as bespoke finished inks, or as part of a blend scheme, comprising a technology varnish, and coloured bases. The colour range includes a process set. Please refer to your local Sun Chemical representative for specific details.

5. General Handling

5.1 Storage

Duraflex PF inks are considered highly flammable. Suitable precautions should be observed to avoid ignition sources. Temperature of storage needs to be kept between 5°C and 35°C.

Shelf life: 12 months under above conditions in tightly sealed containers.

5.2 Waste disposal

Care should be exercised in the disposal of printing ink waste. This should be carried out in accordance with good industrial practice, observing all the appropriate regulations and guidelines.

For more specific handling advice refer to the Material Safety Data Sheet (MSDS).

6. Printing Conditions

6.1 Printing Viscosities

All inks must be thoroughly stirred and homogeneous before reducing with solvent. The optimum printing viscosity depends on press and running conditions. Good results have been achieved at the following viscosities:

- Flexo: 16-25 sec (Ford Cup N°4).

6.2 Reducing solvents

For Flexo:

- Normal: Ethyl alcohol /ethyl acetate 80:20
- Slow: N-propyl alcohol / N-propyl acetate 80:20
- Retarder: Ethoxypropanol, Methoxypropanol

Addition of methoxypropanol & ethoxypropanol should be controlled to avoid a negative effect on solvent retention.

6.3 Wash up solvent

All elements in contact with the ink should be cleaned carefully after use with Alcohol / Ester blends.

6.4 Cylinders / Plates

Duraflex PF is suitable for all common types of cylinders (chemical and mechanical engraving) and flexo plates.



7. End-use safety

Duraflex PF is a solvent based ink lamination system intended for using on flexible food packaging.

All Sun Chemical products are formulated to the latest CEPE/EuPIA guidelines. This excludes the use of carcinogenic, mutagenic and toxic for reproduction (CMR 1 and 2) or labelled (T) according to the Dangerous Substances Directive 67/548/EEC, substances classified as very toxic(T+)or toxic(T) .

Pigments based on compounds of Sb, As, Cd, Cr (VI), Pb, Hg, Se. The use of certain dyes, solvents, plasticisers and miscellaneous materials are also excluded. A copy of the document is available on request.

All Sun Chemical products are designed with end-use safety built-in. Combination of Sun Chemical products with products from other manufacturers may affect the suitability of the Sun Chemical product for specific end uses and/or applications. It is advised that in such circumstances the user undertakes a detailed risk assessment to ensure that safety is not compromised.

Acceptable technical performance of **Duraflex PF** is dependent on:

- Adequate drying on press (to ensure that the print is dry before conversion)
- Appropriate packaging design and structure
- Control of any migratable substances within the finished packaging structure
- Suitable adhesive used in accordance with supplier recommendations
- The choice and control of substrate, design (including coverage and coat weight), process conditions (e.g. to ensure proper drying) and any materials from other suppliers are printer or converter technical requirements.

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Food Packaging: It is the ultimate responsibility of the food packer to ensure packaged food is safe. With regard to potential migration of substances in to the foodstuff from the printed packaging, it is the responsibility of the converter and food packer to ensure that migration does not exceed any permitted regulatory limitations.

To fulfill its responsibility within the supply chain, and following the signing of a legally binding mutual non-disclosure agreement, Sun Chemical will provide details to the customer of any potential migratable components present in its products through the preparation and communication of a 'Statement of Composition'



8. Disclaimers

This list of applications, substrates and processes provided in this document is not exhaustive. Please contact your local Sun Chemical representative for full technical evaluation of your application or process.

The performance of the product and its suitability for the customers' purpose depend on the particular conditions of use and materials being printed. Therefore, any statement provided in this document should not be construed as providing a guarantee of performance in a specific application area. Sun Chemical always recommends that customers carry out a full evaluation of performance and safety-in-use prior to using our products in commercial applications.

This product is only suitable for use on the non-food-contact side of food packaging provided that it is applied under the relevant Good Manufacturing Practices (GMP) and according to the recommendations of this Technical Data Sheet

The printers, converters and the packer/filler have the legal responsibility to insure that the finished article is fit for the intended purpose(s) and that the ink and coating components do not migrate into the food at levels that exceed legal and industry requirements.

9. Technical Assistance / Contacts

For further information, please contact your local Sun Chemical team or visit our website on www.sunchemical.com

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.

