



SHEETFED EUROPE

P R O C E S S I N K S



NEW EXACT PSO™ SHEETFED PROCESS INKS FROM THE WORLD'S LEADING INK MAKER

EXACT PSO™ is more than an ink series.
It is a sheetfed process set that comes
with Sun Chemical expertise to help
achieve offset standardisation including
training and expert advice.

A WORD FROM PRINT BUYERS

International print buyers continue to demand from their printers the application of process standardisation. Using process standard offset ("PSO" and ISO 12647:2)

print jobs can be printed in different print shops in different parts of the world without major variances.

The international print buyer wants his printed product to be exactly the same no matter where and in what language it is printed. Process Standard Offset is becoming an international language for 4-colour process printing.

This new process language demands high standards in all print process elements and printing ink.

Sun Chemical's answer to this new demand is a highly versatile product with best-in-class mechanical resistance and is exactly fit to meet the new printing standards set in Process Standard Offset.

This new language applies to all parts of the graphic chain from print buyer to designer to pre-press and on-press performance.

A WORD FROM OFFSET PRINTERS

Achieving process standard offset is a costly and time-consuming task. A "qualified" printer however can improve his business and increase his client base by becoming "approved" as a supplier to the increasing number of print buyers using the standard. Experienced and expert offset printers can show competence and stand out from other companies and so be more competitive. Process standardisation sets tolerances for printed colour and reproduction forming a good basis for accurate tendering.



PROCESS STANDARD OFFSET

The German industry association for printing, the BVDM, in cooperation with FOGRA institute have issued the Process Standard Offset (PSO) that describes all the necessary steps for the whole workflow in detail. Test tools are available to achieve and to test compliance to the new standards in pre press companies and in print shops. For example the joint project of BVDM, the European Colour Initiative (ECI), and the Institutes UGRA and FOGRA led to the Altona test suite.

The A to Z of a new language for colour in 4-colour process printing.

The concept of print standardisation starts with some international organisation standards and arrives with the new Process Standard Offset.

- ISO 2846:1 specifies the shade in solid tones on proof prints of 4-colour process colours.
- ISO 12647:2 specifies the $L^*a^*b^*$ colour space values and tolerances of the primary colours and recommends $L^*a^*b^*$ values and tolerances of the secondary colours of 4-colour process inks under practical conditions.
The ISO 12647:2 standard includes the classification of papers and print definition curves. The ISO 12647:2 does not include specific work instructions and is hard to interpret.
- ISO 15930-3:2002 that is also known as PDF/X3 workflow is the current standard for pre-press workflow.

SUN CHEMICAL LEADS THE WAY TO PROCESS STANDARDISATION

Sun Chemical can advise you on process standardisation. This needs to be done accurately at the beginning and then monitored regularly.

STEP ONE

Press settings need to be checked:

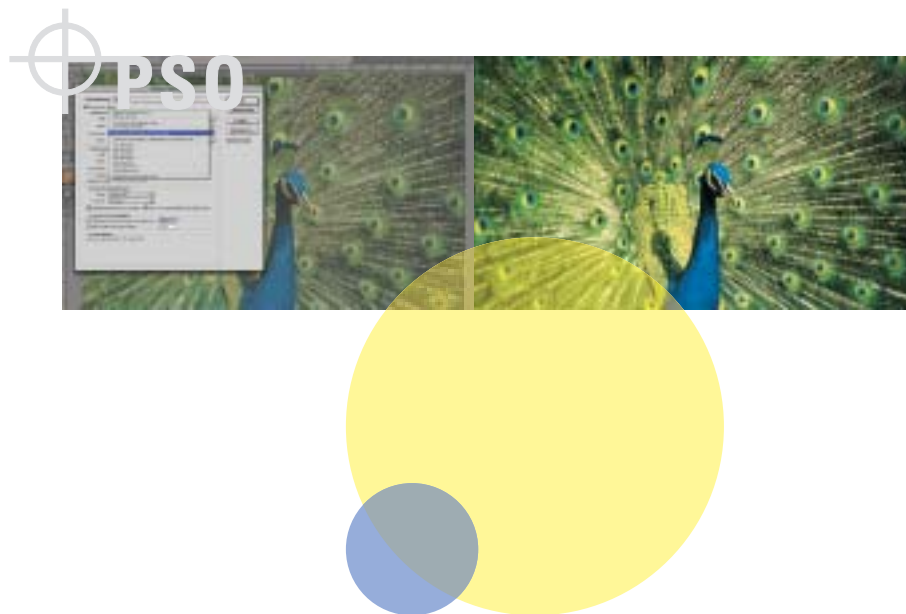
- Blanket
- Packings
- Rollers
- Cylinders
- Plate

STEP TWO

Make a test printing:

- Use a linear exposed plate and EXACT PSO™ inks from Sun Chemical and make a test printing on each unit.
- If all the press units give the same print definition curve then measure the density (This first step may show faults on press settings).
- Use a linear exposed test form (e.g. Altona Test Suite) for a test printing using a spectrophotometer to control the inking.
- From good sheets record the values of the dot gains in 10% steps and draw a print definition curve (measure at least 10 sheets).
- Modifications for the plate exposure can be written in a "look up" table.
- From test prints record optical densities (This is a great help to some printers who rarely use spectrophotometric values).
- Use control elements available from FOGRA during the entire workflow.

With these elements standardised printing can be monitored during production.



A WORD FROM SUN CHEMICAL

For the ideal or exact ink to meet the new requirements, four important challenges must be met:

- The development of a “PSO” ink is a very complex process. In addition to laboratory work and many printing trials inks must be fully tested in accordance with the new standards. Ink must not only fit the tolerances allowed in the standard but ideally should give results in the middle of the specification ... taking account of all the press, substrate, fount and printing condition variables found in printing.

- The second challenge is consistency in terms of mass-tone, dot gain, ink transfer and other variables that may affect the ability to meet the printed standard.

The ink must be available commercially and not need any adjustment to meet the requirements.

- Thirdly the ink must be capable of the highest levels of press performance on the widest range of presses using all fountain solutions and on all appropriate substrates and give the best possible printed result allowing fast conversion and a high quality and resistant print.

- The final task is to help both printers and print managers to realise the standards in an increasingly international world ... this is perhaps the biggest challenge and a challenge that can be met by the new process set from Sun Chemical called EXACT PSO™ and a call to our expert technical services.



EXACT PSO™: A NEW LANGUAGE IN OFFSET PRINTING

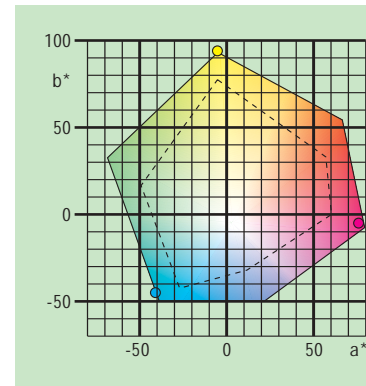


These new inks are based on novel vegetable oil chemistry using a maximum of renewable resources allowing you to comply with increasing environmental demands. EXACT PSO™ process inks perform well on straight printing and long perfecting presses and can be used on the majority of substrates for both long run and short run work on all sheetfed offset presses.

Sun Chemical EXACT PSO™ series can be printed on all paper and board substrates normally found in sheetfed offset printing. Together with the range of SunFount fountain solutions and SunCoat coatings EXACT PSO™ can increase productivity whilst meeting demands for the highest mechanical resistance.

EXACT PSO™ CHARACTERISTICS

- Meets the requirements of ISO 12647-2
- Complies with ISO 2846:1
- Excellent mechanical and rub resistance
- Excellent ink trapping
- Duct and roller fresh
- Vegetable oil based
- Complies with Toys regulations and CONEG (heavy metal regulation)
- Excellent setting and drying
- In-line and off-line varnishable (water-based coatings)
- Off-line varnishable (with suitable UV runs with and without alcohol in the fount)
- Suitable for all presses
- Perfect for books, magazines, commercial and publications, advertising and packaging.
- Standard light-fastness, solvent and chemical resistance
- Proven on perfecting presses, 8, 10 and 12 colour
- Can be used on perfecting presses equipped with coating units for both sides



Colour gamut in offset in accordance with ISO 12647-2 on paper type 1 (-) and paper type 4 (---), colour coordinates in accordance with ISO 2846:1 on APCO II/II (•••).

Process Inks			Light fastness ISO 2835	Alcohol ISO 2837	Solvent Mixture ISO 2837	Alkali ISO 2838
			☀	🍷	🧴	🧼
Yellow	G 9701 / EXA 26		5	+	+	+
Magenta	P 9702 / EXA 27		5	+	+	-
Cyan	B 9703 / EXA 25		8	+	+	+
Black	S 9704 / EXA 46		8	-	-	+

RESEARCH AND DEVELOPMENT

Sun Chemical is not only involved in the research and development of printing inks but also is a leader in developing and producing pigments, polymers, resins and additives for printing inks. These parallel and convergent processes allow synergies and support application focussed formulations. EXACT PSO™ is a result of both R&D and the synergy possible within Sun Chemical. Our customer technical services are trained in process standardisation for 4-colour process printing that completes the package offered as EXACT PSO™.

Customer technical service is part of the complete offering from Sun Chemical to improve your productivity and profitability. We listen to our customers' demands for a printing ink and expert help in installing offset process standardisation and we offer an EXACT PSO™ solution.

Sun Chemical still leading the way.

SunChemical®

JUST IMAGINE



SUN CHEMICAL – GLOBAL SUCCESS IN A WORLD OF COLOUR

Sun Chemical is the world's largest producer of printing inks and pigments. It also is a leading provider of materials and services to packaging, publication, coatings, plastics, cosmetics and other industrial markets. Sun Chemical has more than 300 locations worldwide to provide customers local service with a global perspective.

Sun Chemical has an historic pedigree, tracing its history back to 1818. Since then, Sun Chemical has expanded its operations, bringing many well-known companies and brands under its umbrella including Coates Lorilleux, Hartmann, US Ink and Kohl & Madden.

Sun Chemical Ltd.
Cray Avenue
St Mary Cray, Orpington
Kent BR5 3PP
United Kingdom
Tel +44 1689 894000
Fax +44 1689 894020

Hartmann Druckfarben GmbH
Borsigallee 13
D-60388 Frankfurt am Main
Germany
Tel +49 (0) 69 4000 0
Fax +49 (0) 69 4000 286

Sun Chemical Corporation
35 Waterview Boulevard
Parsippany, NJ 07054-1285
United States of America
Tel +1 973 404 6000
Fax +1 973 404 6001

WWW.SUNCHEMICAL.COM

Although the information presented here is believed to be reliable, Sun Chemical Corporation makes no representation or guarantee to its accuracy, completeness or reliability of the information. All recommendations and suggestions are made without guarantee, since the conditions of use are beyond our control. There is no implied warranty of merchantability or fitness for purpose of the product or products described herein. In no event shall Sun Chemical Corporation be liable for damages of any nature arising out of the use or reliance upon the information. Sun Chemical Corporation expressly disclaims that the use of any material referenced herein, either alone or in combination with other materials, shall be free of rightful claim of any third party including a claim of infringement. The observance of all legal regulations and patents is the responsibility of the user.