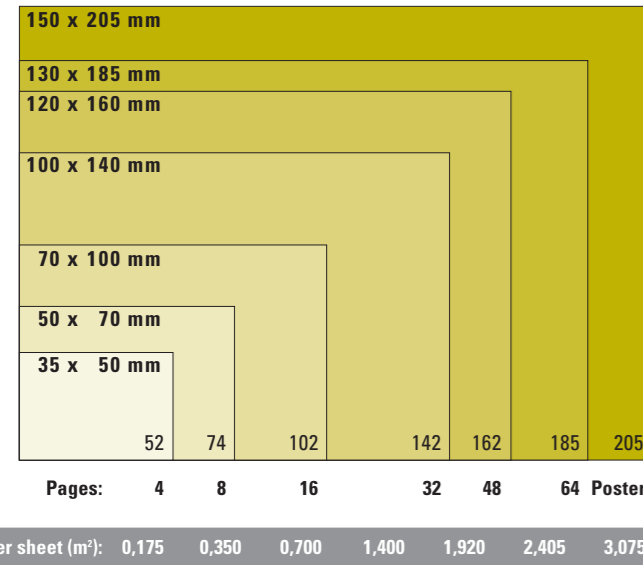


SUNCURE® DISPLAY

SIZE MATTERS

Large format size, high substrate costs, top quality expectations, high resolution images, fast service, highly resistant prints and brilliant graphics characterise the display market demands. These demands also define the specifications for all the consumables needed including printing inks and coatings.

Sun Chemical used all its extensive resources in energy curing products together with partnerships with the largest machinery manufacturers to complete the fine tuning of SUNCURE® Display inks to meet current and future market needs. A full product range for a growing market in large format printing. Take a fresh look at UV printing with SUNCURE® Display.



SUNCURE® DISPLAY – PRODUCT REFERENCES

Product	Product Code	☀	🍷	🧴
● Process Yellow	SunCure® Display USD26-EA1	5	+	+
● Process Magenta	SunCure® Display USD27-EA1	4	+	+
● Process Cyan	SunCure® Display USD25-EA1	7	+	+
● Process Black	SunCure® Display USD46-EA1	7	+	+
● Resistant Yellow	SunCure® Display USD54-EA1	7	+	+
● Resistant Magenta	SunCure® Display USD44-EA1	7	+	+
● Orange 021	SunCure® Display USD21-EA1	4	-	+
● Resistant Warm Red	SunCure® Display USD35-EA1	6	+	+
● Resistant Pink	SunCure® Display USD56-EA1	7	+	+
● Resistant Violet	SunCure® Display USD53-EA1	7	+	+
● Resistant Reflex Blue	SunCure® Display USD63-EA1	7	+	+
● Green	SunCure® Display USD71-EA1	7	+	+
● Untoned Black	SunCure® Display USD50-EA1	8	+	+
○ Non-yellowing Transparent White	SunCure® Display USD49-EA1		+	+
○ Opaque White	SunCure® Display USD84-EA1		+	+
○ Hi-Adhesion White	SunCure® Display USD47-EA1		+	+

- ☀ Light fastness
- 🍷 Alcohol
- 🧴 Alkali

Note:
The colours in this table are simulated from 4-colour process printing. Please refer to PANTONE® colour guides for accurate colour matching.

The information in the table has been carefully compiled from experience gained in the laboratory under commercial conditions. However, the product's performance and its suitability for the customer's purpose depend on the particular conditions of use and the material being printed. We recommend that the customers satisfy themselves that each product meets their requirements in all respects before commencing a print run.

SUNCURE® Display inks are not intended for food packaging applications. Please contact your local SunChemical® representative if you need guidance on the use of SUNCURE® Display inks.

*Test methods available on request

FM6 base colours can be blended from the above inks, contact your Sun Chemical® Customer Technical Service team for advice.

ISO 12647-2 COMPLIANT RESISTANT PROCESS SET

Product	Product Code	☀	🍷	🧴
● Resistant Yellow	SunCure® Display USD70-EA1	6	+	+
● Resistant Magenta	SunCure® Display USD68-EA1	6	+	+
● Resistant Cyan	SunCure® Display USD64-EA1	7	+	+
● Resistant Black	SunCure® Display USD78-EA1	7	+	+



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.

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SUNCURE® DISPLAY

TAKE A FRESH LOOK AT UV PRINTING



SUNCURE® Display is a new and innovative range of UV curing offset inks for the large and very large format offset sheetfed display printing market.

Full colour graphics printing for this market was formerly possible by screen printing or very large format digital printing only. Now, with the availability of large format offset presses and these new SUNCURE® Display inks the printer can choose sheetfed offset printing to satisfy the increasing demands for very high quality graphics.

The key features for printing inks for this new and growing segment are top on-press reliability together with excellent adhesion on the wide range of specialist substrates used for display purposes. Some plastic and composite substrates are very expensive and waste in production must be avoided. Sun Chemical SUNCURE® Display inks make-ready on ordinary paper and are fast up to colour with excellent press stability to minimise the risk of waste sheets.

Market demands for mechanical and rub resistance are especially high due in part to the weight of the sheets. The use of SUNCURE® UV coatings can often help in this regard. Some end-users and advertisers also demand ISO12647 compliance together with additional light-fastness to meet outdoor exposure conditions. Sun Chemical SUNCURE® Display products and SUNCURE® coatings have been specially developed to meet all these new challenges.

This is an exciting and growing segment of Graphic Arts with a highly visual place amongst advertising media. Sheetfed offset printing with SUNCURE® Display provides high resolution reproduction cost effectively.

Take a fresh look at UV printing with SUNCURE® Display.



ABOUT LIGHTFASTNESS

The SUNCURE® Display range includes some products with additional fastness to light where outdoor exposure is intended or where extended product life is demanded even with indoor or artificial lighting conditions.

For light fastness of prints (ISO 2835 for example) we mean their resistance to daylight without the direct influence of bad weather conditions and measured by comparison to a calibrated set of 8 examples of blue dyed wools of increasing resistance to light fading. The use of apparatus equipped with a Xenon lamp permits accelerated testing. The resistance to colour fading times can vary widely in practice caused by a number of important factors: pigment compositions, substrates, colour strength, film weight used, format (solid, half-tones), storage conditions, exposure time, etc. In mixtures it is the component with the lowest resistance that defines the overall resistance value: in the same way the resistance is reduced the more the strength of the shade is reduced.

As an example, clothing would normally have a minimum light fastness of 4 whereas furnishing fabric would be 6 or 7. One unit of measurement of light is a "lux". A typical amount of light in an indoor space could be 500 lux in 10 hours of illumination. Exposure to average indirect indoor lighting (180 lux) for an average 12 hours a day equals 0.8 megalux hours each year. Under this sort of illumination prints with a light fastness of 4 or 5 will remain without fading for many months, even years. On the other hand the level of light in outside exposure is many 1000 times higher. Direct outdoor sunlight (or indirect light in a very bright room) and can yield 5 000 to 100 000 lux of illumination. This can produce a cumulative radiance exposure (depending on weather conditions) of up to 25 megalux hours in a year and this is up to 50 times brighter than normal indoor conditions. With 25 megalux exposure a print with light fastness of 5 could be expected to show first fading in several weeks.



BLUE WOOL LIGHT FASTNESS TESTING

Typical appearance of unexposed and exposed blue wool strips showing fading after exposure to strong light in an accelerated light fastness test.



This diagram is for illustrative purposes only.

LIGHT FASTNESS

The blue wool scale from BW1 to BW8 (excellent lightfastness) is not linear. There are many variables which can affect the useful life of a print. This table is only a guide to show the wide variation possible depending on geographical conditions.

Blue Wool	Megalux	Description	Time to start fade
BW8	900	Excellent	6 to 15 months
BW7	300		2 to 6 months
BW6	100	Very good	6 to 16 weeks
BW5	32	Fair to good	2 to 6 weeks
BW4	10	Fair	1 to 2 weeks
BW3	3.6	Fair to poor	5 days to 2 weeks
BW2	1.3	Poor	1 to 5 days
BW1	0.4	Very poor	3 hrs to 3 days

SPECIFICALLY DESIGNED FOR LARGE FORMAT SHEETFED PRINTING

SUNCURE® Display is a sheetfed offset UV ink system that has been specifically designed for use on large format sheetfed presses for the printing of posters, point of purchase and display items.

SUNCURE® Display covers a select range of process and blending colours, including high resistance shades for outdoor and extended life applications. ISO12647.2 and ISO2846 compliance is achievable with the process inks, even when requiring resistant colours. Due to the high cost of printing plastic substrates, it is common practice to make ready on paper. SUNCURE® Display has been carefully designed to allow transition from make-ready on paper to commercial printing on plastic, with minimum press adjustment. SUNCURE® Display exhibits excellent water balance and quick start-up properties to meet the needs of the short runs that are common in the Point of Purchase and Display market.

Take a fresh look at UV printing with SUNCURE® Display.

SUNCURE® DISPLAY CHARACTERISTICS

- Suitable for large format sheetfed presses
- Designed for printing on non-absorbent substrates
- Suitable for paper and board
- Suitable for make-ready on paper
- Robust lithographic performance
- Good ink/fount stability and balance
- Good dot reproduction
- Meets the requirements of ISO12647.2 and ISO2846
- Good trapping properties
- Excellent cure, even at low lamp power
- Good adhesion to a wide range of substrates
- Resistant colours available
- Suitable for in-line or off-line UV coating
- Suitable for use with high resistance coatings
- Compatible with a wide range of printing plates
- Compatible with a wide range of blankets

A TOTAL HIGH QUALITY PACKAGE

To get the best performance from SUNCURE® Display use coatings and founts that have been specifically developed for the highest quality printing on wide format presses.

SUNCURE® HIGH QUALITY UV CURING COATINGS

A range of SUNCURE® coatings for use on end-of-press anilox or roller coaters is available for use with SUNCURE® Display. The following products are recommended for general purpose work:
SUNCURE® 15HC146 Gloss finish coating
SUNCURE® 15HC341 Matt finish coating
These products can be mixed to achieve a wide range of satin finishes, according to need. SUNCURE® 18HC124 cationic coating is recommended for the ultimate in chemical and product resistance but needs special care in use.

Please seek advice from your local Sun Chemical Customer Technical Service representative.

SUNFOUNT™ FOUNTAIN SOLUTIONS

Depending on the press type and substrates, a number of SunFount™ additives are available for use with SUNCURE® Display to provide optimum emulsification and printing properties:
SunFount™ 320 with 0-7 % alcohol or
SunFount™ 485* with 0-10 % alcohol are both good starting points for most applications.
Contact Sun Aqua Systems (www.suneurope.com) for details and product recommendation.

*Contains F0GRA approved anti-corrosion additives.