Sync™ is a multi-purpose UV curable screen printing ink system designed for use on a wide range of substrates and on all press types. These 4 color process inks are designed for use with G7 methodology.

**technical information and ink handling**

**Pigment selection and color range**
Sync inks are available in a range of process colors and the SunMatch™ range of blending colors. These include nine (9) strong, bright, monopigmented shades which together with white, black & mixing clear form a complete blending system allowing the matching of virtually any shade including simulations of PANTONE® color. The Sun Match color range is fully compatible with both Formulator and Formulator IDS color-management systems.

**Standard Colors**

<table>
<thead>
<tr>
<th>Standard Colors</th>
<th>Formula Number</th>
<th>SAP Number 1 Gallon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sync Opaque Black</td>
<td>Sync-N70</td>
<td>90899996</td>
</tr>
<tr>
<td>Sync Opaque White</td>
<td>Sync-W70</td>
<td>90899983</td>
</tr>
<tr>
<td>Sync Overprint Clear</td>
<td>Sync-C50</td>
<td>90899999</td>
</tr>
</tbody>
</table>

**Modifiers**

<table>
<thead>
<tr>
<th>Modifiers</th>
<th>Formula Number</th>
<th>SAP Number 1 Gallon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface Hardener</td>
<td>ST 341</td>
<td>90020047</td>
</tr>
<tr>
<td>Viscosity Modifier</td>
<td>ST 350</td>
<td>90020049</td>
</tr>
<tr>
<td>Cure Accelerator</td>
<td>ST 370</td>
<td>90020060</td>
</tr>
<tr>
<td>Adhesion Promoter</td>
<td>ST 373</td>
<td>90020065</td>
</tr>
</tbody>
</table>

**processing parameters**

**Screen Mesh**
355 – 420/inch (140 – 165/centimeter) monofilament polyester mesh, or finer, is recommended. It is possible to use coarser fabrics, however, the curing parameters must be adjusted for sufficient cross-linking of the increased ink film deposit.

**Squeegee**
Sharp urethane squeegee of approximately 75 – 85 durometer for use with these inks. If printing 4 color process, an 80 durometer squeegee is recommended.

**Coverage**
When printed through a 355 inches/31 (140 centimeters/31) mesh, Sync inks covers approx. 3000 ft./gallon, depending on printing variables.

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(1) SunMatch™ is a copyrighted color matching system from Sun Chemical that can simulate the universal color references of the Pantone®1000 guide.

PANTONE® is a registered trademark of Pantone, LLC.

In accordance with information received from suppliers, the full Sync series is formulated without heavy metals and complies with: 16 CFR, Part 1303; ANSI Z66.1-1964; ASTM F 963; CONEG packaging regulations; EC Packaging Waste Directive EC/94/62; EN71, section 3; RoHS 2002/95/EC; WEEE 2002/96/EC; E2003/11/EC.
Sync™ Technical Data Sheet

Modification
Sync inks are designed to be press-ready directly from the container and do not require the use of additives under normal printing conditions. If needed, the following additives are available for modification:

- Sun Chemical ST-341 Surface Hardener - use 5 – 10% by weight
- Sun Chemical ST-370 Cure Accelerator - use 1 – 5% by weight
- Sun Chemical ST-373 Adhesion Promoter - use 3% by weight

Under adverse conditions ST-341 can be added to help prevent slight sticking in stacks of freshly cured Sync prints - especially double-sided on heavy-gauge plastic substrates, for example polystyrene, that may retain heat resulting from the UV curing process. Do not add ST-341 when printing flexible vinyl or other flexible materials. Improves adhesion and water resistance properties.

Once ST-373 has been added, the pot-life of the uncured ink will remain active for up to 24 hours, after which time it will lose its enhanced adhesion and resistance properties and should be discarded.

Cure parameters
Generally, a typical 5 – 8 micron deposit of a Sync colors achieved with 380 inches/31 (150 centimeters/31) mesh will require UV exposure of approximately 180 – 250 mJ/cm², as measured with an EIT PowerMAP or PowerPUCK. Opaque White and Black will require more UV energy to cure. 350 – 400 mJ/cm² is typically required.

Actual cure speeds will vary, depending on ink color; mesh; ink film deposit; opacity; number of color components (in a color blend), substrate type and color type of UV lamps, in addition to a wide range of other processing parameters.

Ink adhesion can only be achieved if the UV ink film is adequately cured. When producing double-sided prints, special care must be taken to fully cure the ink film and minimize print temperature before stacking prints, to prevent marring.

Note: Prints made with these inks should be allowed a 24 hour post-cure before sewing or finishing.

clean-up
Sync inks can be cleaned from screens and processing equipment with any suitable screen wash. Sun Chemical has a variety of wash-ups including eco-friendly screen washes.

substrates
These inks are suitable for printing wide range of substrates including corona-treated polyethylene banner material; styrene; treated or top-coated mylar/polyester; corona-treated coroplast; corona-treated high density polyethylene sheet; coated paper & board; rigid vinyl; pressure-sensitive vinyl; ABS; PETG; acrylic; and polycarbonate.

Sync screen printing inks are not recommended for use on highly plasticized vinyl substrates such as static-cling vinyl and reinforced banner vinyl. Please use Sun Chemical’s VYB series for these substrate applications.

For maximum resistance to edge curl on pressure-sensitive vinyl, Sun Chemical’s VYB and FLX ink series are recommended. Please refer to the technical data sheets for these products or contact Sun Chemical Screen Technical Service for more information.

Note: Pretest all substrates, process and finishing conditions prior to use in production.

Color Process Printing
Sync process colors are balanced for density and L*a*b* values in accordance with ISO 12647-5 and are recommended for use with G7 calibration process methodology.

The recommended sequence for 4 color process printing is:

- Yellow, Cyan, Magenta, Black

To meet the ISO color specification for G7 methodology, Sync-Y131 process yellow must be printed first. If an alternate print sequence is preferred, use Sync-S231 process yellow. Alternating the recommended print sequence or using Sync-S231 process yellow will not meet the ISO color specifications.

storage considerations
When stored in black polyethylene containers at temperatures between 40 – 90°F (5 – 32°C), these inks have a shelf-life of up to 36 months.

safety, health and environment
Sun Chemical Sync screen printing inks are to be used in accordance with normal standards of industrial hygiene and good manufacturing practice. Please refer to the Material Data Safety Sheet for specific information. Material Safety Data Sheets will be supplied. Printing inks, coatings and printing residues should be disposed of in accordance with local and national regulations.