



# Dow Corning® Silicone Textile Printing Inks

*For durable, high-quality screen printing that looks great, feels soft and doesn't crack, fade or run*



## Trends in the Screen Printing Market

Screen printing technology represents a large growth opportunity for manufacturers of sportswear and casual apparel. Over time, plastisol (PVC) and water-based PA/PU inks have been widely adopted by printers. However, these types of inks have some serious drawbacks – such as inferior wash and weather durability, and poor hand feel and tackiness – that limit their use, particularly in high-end apparel applications. In addition, some of these products could contain plasticizers and have other negative environmental effects.

To counter these problems, printing mills tried silicone inks because of their good washing durability, hand feel, elongation properties and environmental friendliness. But those products had their own set of issues – tackiness, high viscosity, stiffness and the inability to create low-gloss finishes.

## Capture the Full Potential for Screen-Printed Apparel

The solution you've been waiting for is finally here: **Dow Corning Silicone Textile Printing Inks** offer a soft,

non-tacky, elastic printing ink that provides appearance and design choices, is durable and does not harm the environment.



Dow Corning Silicone Textile Printing Inks	Plastisol Inks	Water-based PA/PU Inks
Environmentally friendly	Not fully environmentally friendly	Low efficiency
Fast curing at low temperature of 120°C	Cure temperature of 160-180°C, which can cause damage to sensitive fabric and yellowing on white fabric	–
Good hand feel with no blocking problem upon folding	Poor hand feel for 3D printing	Imbalance between hand feel and tackiness
Ironable, no-melting	Poor ironing stability	Poor ironing stability
Stable over a wide range of temperatures; flexible under -30°C (-22°F) or lower temperatures	Instability under extreme temperatures <-30°C (-22°F)	Instability under extreme temperatures <-30°C (-22°F)

**Dow Corning Silicone Textile Printing Inks offer unique properties that make them superior to many competitive materials, including plastisol and water-based PA/PU inks.**

## Possible Applications

Dow Corning developed silicone textile printing inks to fill in the existing performance gap and offer printers additional choices by overcoming the drawbacks of traditional inks, delivering performance aligned with environmental standards and meeting various special design needs for customers to differentiate their products from competition. *Dow Corning* Silicone Textile Printing Inks are suitable for screen printing processes on most natural and synthetic fabrics including elastic fabrics.

- Bathing/swim suits
- Gloves
- Hats and caps
- Jackets
- Jerseys
- Pants
- Shirts
- Shorts
- Sleepwear
- Socks
- Sweaters
- Sweatshirts
- T-shirts
- Undergarments
- Uniforms

## Special Printing Effects

Innovative *Dow Corning* Silicone Textile Printing Inks allow for several unique special effects, including:

- Amber-looking effect
- Ability to print on elastic, ex. swim suits
- Metallic powder
- Anti-cracking at low temperature
- Multi-color flocking
- Water droplet effect
- Anti-color migration
- Non-slippery
- Breathable, four-color dot printing
- 3D print dot pole matrix
- 3D print with sharp edge
- Glass bead
- Loading

## Production Advantages

**Cost effective:** Typical inks can require 5-8 layers to achieve optimal coverage. You can achieve the same effect with only three layers of *Dow Corning* Silicone Textile Printing Ink, resulting in a less bulky finish, lower material usage, faster production life cycle and labor cost savings.

**Easily pigmented:** Base-to-color masterbatch ratios are not fixed, allowing you to adjust the printing ink color. (Pigments should be tested for compatibility first.)

**No environmental or user issues:** Most PVC inks are being phased out. Other inks could contain harmful materials. *Dow Corning* Silicone Textile Printing Inks offer a non-toxic, environmentally sound alternative that is Oeko-Tex® Standard 100 compliant.

**Operation-friendly:** Improper viscosity or thixotropy can make printing difficult or result in poor ink penetration. *Dow Corning* Silicone Textile Printing Inks provide a viscosity and thixotropy suitable for screen printing.



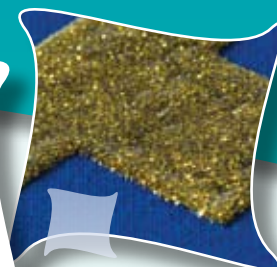
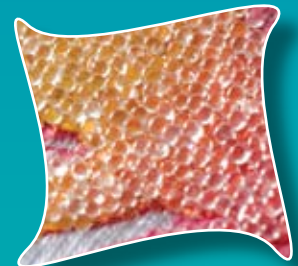
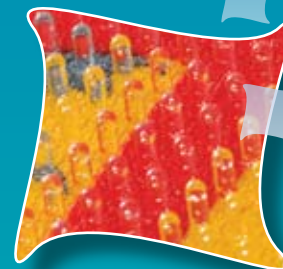
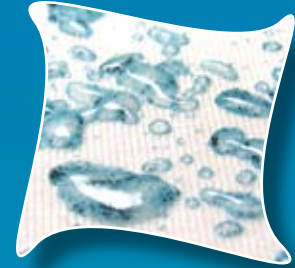
## Key Features and Benefits

- **Environmentally sound:** Does not contain organotin, phthalate, formaldehyde, PVC or solvent
- **Fast cure:** Skin cured in 3-6 seconds at skin temperatures between 100-130°C (212-266°F)
- **Improved fashion appearance:** Design apparel with high gloss, matte finish or a metallic look with no creasing



- **High elongation:**  
Suitable for fabric with 15-20% spandex content
- **Excellent durability:**  
Superior wash durability, even during enzyme- and stone-washing; weather durability and is anti-ultraviolet

- **Good hand feel:** Soft, non-sticky handle with no blocking problem upon folding
- **Anti-color migration:** No color migration (passes the 48 hours at 70°C [158°F] test), even between red and white
- **Heat resistant:** Ironable, no-melting and is flame retardant
- **Cryogenic resistance:** Flexible even under -30°C (-22°F) or lower temperature
- **Suitable for dot printing:** More breathable, high resolution and alternative looks
- **Easier to get 3D effects:** Sharp edges and smooth surface
- **Operation-friendly:** Suitable viscosity and thixotropy
- **Cost effective:** Lower cycle time and better coverage
- **Multiple color flocking:** Longer application time favors multiple color flocking
- **Good adhesion:** With glass beads and some waterproof treated fabric
- **Compliance with Oeko-Tex® Standard 100**



## Learn More

To request a sample or for more information about using *Dow Corning* Silicone Textile Printing Inks, visit [dowcorning.com/screenprinting](http://dowcorning.com/screenprinting).

## Contact Information

[dowcorning.com/ContactUs](http://dowcorning.com/ContactUs)

Photos (from left to right, top to bottom): Page 1 - AV13215, AV09830; Page 2 - AV11949, AV13437, AV11948; Page 3 - AV13541, AV13428, AV13542, AV13442, AV13436, AV13434, AV13440, AV12563, AV13435, AV13432.

### **LIMITED WARRANTY INFORMATION - PLEASE READ CAREFULLY**

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that our products are safe, effective and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent.

Dow Corning's sole warranty is that our products will meet the sales specifications in effect at the time of shipment.

Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted.

**DOW CORNING SPECIFICALLY DISCLAIMS ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY.**

**DOW CORNING DISCLAIMS LIABILITY FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.**

*Dow Corning* is a registered trademark of Dow Corning Corporation.

*We help you invent the future* is a trademark of Dow Corning Corporation.

*Oeko-Tex* is a registered trademark of Oeko-Tex Institutes.

©2008, 2009 Dow Corning Corporation. All rights reserved.

Printed in USA

AGP10352

Form No. 26-1446F-01

**DOW CORNING**

*We help you invent the future.*<sup>™</sup>