

AdheSIL

Silicone Inks

Product Data Sheet

Printing on Silicone Rubber Surface [Cured]

Introduction:

AdheSIL Silicone Ink is a innovative product completely developed & manufactured by **G prints & graphics** for printing on silicone rubber articles by Screen or by coating method. Silicone inks are designed for better processing during printing & when printed and cured perfectly on silicone rubber exhibits properties like:

- 1] Excellent gloss.
- 2] Bright colors & good color strength.
- 3] Good compatibility with screen and coating.
- 4] Excellent bond with silicone rubber surface and fabric surfaces*.
- 5] Works with flexible and stretchable surfaces
- 6] Scratch resistance & wash resistance with water.
- 7] Eco friendly, ROHS compatible, solvent less inks.

Application:

Applicable on Silicone keypads, Extruded Hose, silicone Wristbands [Hand rings] and many other silicone products.

Excellent Adhesion on Surfaces like Polyester, Coated Polyester, Polyamide, Fiber Glass cloth etc...

See next page for printing on Membrane key pads.

Using Inks:

AdheSIL silicone inks are is two part system inks, supplied with **AdheSIL BASE & AdheSIL CROSS LINKERS** separately. Both components has to be mixed before application process in ratio of **100:20**. Ink should be mixed thoroughly with Cross linkers for at least 30 seconds using portable power tool before printing. After mixing cross linkers, ink should be stored at 24°C temperature for maximum pot life.

AdheSIL silicone inks are made specially for printing on silicone rubber, inks adheres on surface when dried in elevated temperature to form chemical bond. For making this bond perfect, surface should be cleaned to remove grease or dust using solvent like toluene [Check the compatibility of solvent before using as it could impart adhesion]. AdheSIL Silicone inks can also used for coating on various other surfaces preliminary trails should be done before using the inks. Please contact us for more details about surface compatibility.

Printing could be done with Screen or compatible printing process with ink, also could be coated on silicone rubber surface using pneumatic spray gun. For fabric coating a graver coater could be used.

For drying / adhesion of inks on silicone products, it has to be placed in oven at 210°C to 270°C temperature for 10minutes to 20 minutes. Time varies as temperature and layer of ink varies. It is always advised to perform trials with different temperature and time to set perfect temperature & time before actual production. Different types of heating elements could be used such as Hot air oven, IR [Infra Red] light ovens or Conveyer oven as per suitable.

Note:

Certain substances can inhibit the drying process of AdheSIL silicone inks to a greater or lesser extent. The most notable include: - Sulphur and sulphur-containing materials (e. g., vulcanizing agents in natural and synthetic rubbers) - Amines, urethanes and amine-containing materials(e. g. amine-cured epoxy resins) - Unsaturated hydrocarbons (e. g. certain plasticizers) - Organo-metallic compounds, particularly organo-tin compounds and materials containing such (e. g., curing agents and condensation-cured RTV-2 silicone rubbers).

Adhesion of AdheSIL Silicone Inks depends on the amount of cross linker and on curing conditions. *Therefore preliminary tests should be carried out to determine optimum formulation and cure conditions. Adhesion on surfaces other than silicone rubber should be tested before using in production.

All the information provided is in accordance with the present state of our knowledge. Nonetheless, we disclaim any warranty or liability whatsoever and reserve the right, at any time, to effect technical alterations. The information provided, as well as the product's fitness for an intended application, should be checked by the buyer in preliminary trials. Contractual terms and conditions always take precedence. This disclaimer of warranty and liability also applies – particularly in foreign countries – with respect to third parties' rights.

AdheSIL

Silicone Inks

Product Data Sheet

Printing on Membrane Key Pads

Introduction:

AdheSIL Silicone Ink is a innovative product developed & manufactured by **G prints & graphics** for printing on Membrane key pad [polyester] by Screen or by coating method. Silicone inks are designed for better processing during printing. When printed / Coated and cured perfectly on Polyester or Polyimide films surfaces exhibits properties like:

- 1] Excellent gloss with rubber touch finish.
- 2] Bright colors & good color strength
- 3] Good compatibility with screen and coating.
- 4] Excellent bond with Polyester or Polyimide films surfaces*.
- 5] Excellent flex & stretch properties.
- 6] Scratch resistance & wash resistance with water.
- 7] Eco friendly ROHS compatible solvent less inks.

Application:

Applicable on Silicone keypads, Membrane Key Pads.

Excellent Adhesion on Surfaces like Polyester, Coated Polyester, Polyamide, Fiber Glass cloth etc...

Using Inks:

AdheSIL silicone inks are two part system inks, supplied with **AdheSIL BASE** & **AdheSIL CROSS LINKERS** separately. Both components has to be mixed before application process in ratio of **100:20**. Ink should be mixed thoroughly with Cross linkers for at least 30 seconds using portable power tool before printing. After mixing cross linkers, ink should be stored below 21°C temperature for maximum pot life.

AdheSIL silicone inks are upgraded for printing on Polyester and Polyimide film surface, inks adheres on surface when dried in elevated temperature to form chemical bond. For making this bond perfect, surface of substrate should be cleaned to remove grease or dust using solvent like toluene [Check the compatibility of solvent before using as it could impart adhesion]. AdheSIL Silicone inks can also used for coating on various other surfaces preliminary trails should be done before using the inks. Please contact us for more details about surface compatibility.

Printing could be done with Screen or compatible printing process, also could be coated on surface using pneumatic spray gun. Roll coating could be also done by a graver coater.

For drying / adhesion of inks on silicone products, it has to be placed in oven at 150C to 210°C temperature for 2 to 10 minutes. Time varies as temperature and layer of ink varies. It is always advised to perform trials with different temperature and time to set perfect temperature & time before actual production. Different types of heating elements could be used such as Hot air oven, IR [Infra Red] light ovens or Conveyer oven as per suitable.

Note:

Certain substances can inhibit the drying process of AdheSIL silicone inks to a greater or lesser extent. The most notable include: - Sulphur and sulphur-containing materials (e. g., vulcanizing agents in natural and synthetic rubbers) - Amines, urethanes and amine-containing materials(e. g. amine-cured epoxy resins) - Unsaturated hydrocarbons (e. g. certain plasticizers) - Organo-metallic compounds, particularly organo-tin compounds and materials containing such (e. g., curing agents and condensation-cured RTV-2 silicone rubbers).

Adhesion of AdheSIL Silicone Inks depends on the amount of cross linker and on curing conditions. *Therefore preliminary tests should be carried out to determine optimum formulation and cure conditions. Adhesion on surfaces other than silicone rubber should be tested before using in production.

All the information provided is in accordance with the present state of our knowledge. Nonetheless, we disclaim any warranty or liability whatsoever and reserve the right, at any time, to effect technical alterations. The information provided, as well as the product's fitness for an intended application, should be checked by the buyer in preliminary trials. Contractual terms and conditions always take precedence. This disclaimer of warranty and liability also applies – particularly in foreign countries – with respect to third parties' rights.

FAQ Using Silicone Inks

1] What is a printing process most suitable for silicone inks?

Ans: We recommend screen printing process where you can control thickness of ink layer to make optimum use of ink. Where there are black background you can print with higher ink thickness for better opacity. For coating purpose a pneumatic spray gun & for fabric a graver or flexo coater could be used.

2] What is a mesh and film thickness could be used for screen printing process?

Ans: 90T mesh screen with 25 microns capillary / stencil film could be used for optimum use of ink and better results of printing. 73T mesh screen with 25microns capillary / stencil film could be used for heavy ink thickness. 73T or lower mesh screen and 50 to 100 microns capillary / stencil film could be used for raised image.

3] Can I print any other materials other than silicone rubber with silicone inks?

Ans: Yes, Some substrates like, polyester, polyamide, fiber glass etc...

4] Silicone ink dose not dry after printing?

Ans: Silicone inks can only be dried in hot air oven with specific temp & time. If at all any other solvent is added in the inks other than recommended solvents.

5] Silicone inks dose not dry even in heat?

Ans: a] Check the temp. it should be in range of 170°C to 250°C or Increase time and check again.
b] Please refer "NOTE" part of Product Data Sheet as some materials may alter drying process of inks.
c] Also if you have added any solvent to adjust viscosity of inks?? as it can alter or totally destroy properties of inks.

6] Silicone ink dries on surface but dose not bond with silicone rubber surface?

Ans: It only indicates that drying process is incomplete and more time has to be given for curing, You can also try increasing heat if it is less.

For any other query other than above please mail us with detail description.

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