

Farbaglow- Night Glow Ink (NG-40)

**Screen/Pad/Spray printing inks
High gloss, High opacity, Fluorescent Inks**

Field of Application

Substrates

Main use: Long afterglow products according to DIN 67510 part 4 Useable for: Solvent-based paints and inks, thermoplastics, thermosetting plastics

- > ABS,
- > Acrylic glass,
- > Lacquered surfaces,
- > Metal,
- > Paper,
- > Polyamide,
- > Polycarbonate,
- > Pre-treated polyethylene,
- > Nylon,
- > Polypropylene,
- > Polystyrene,
- > Polyurethane
- >Rigid PVC
- >Coated substrate.

Substrates may differ in their chemical structure or method of manufacture. A test for suitability must always be carried out before printing. Antistatic, Mould Release Agents and Slip Additives may have negative effects on adhesion, and should be detected and removed prior to printing.

Characteristics:

This glossy, physically drying and chemical reactive printing ink exhibits good mechanical and chemical resistance, as well as a good flexibility. Farbaglow series includes night glow printing inks are the best choice due to excellent adhesion, high opacity, very low consumption,

Typical chemical properties

Composition: alkaline earth aluminate
Insoluble in: alkalis, organic solvents
Decomposition by: water, acids.

Typical physical properties

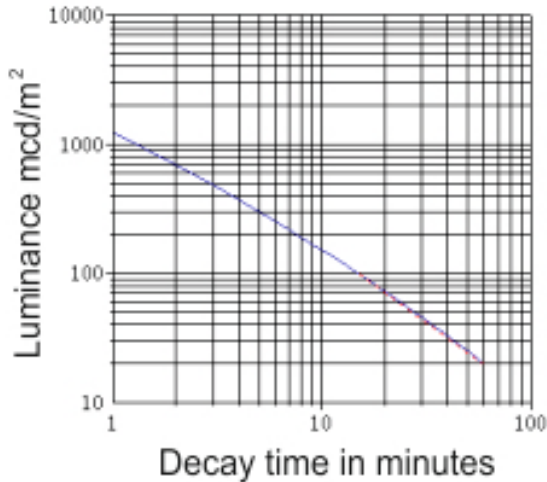
Appearance: yellowish white ink.
Specific gravity 3.6 g/cm³
Particle size distribution: d₅₀ = <10 μm
(as determined by COULTER Lasersizer 230)

Typical luminescent properties

Excitation: white light, UV radiation
Color of fluorescence: green
Color of phosphorescence: green
Reference criterion to DIN 67510, part 1: min. 151/20-2200-W-K

A special product test is recommended prior to production.

Typical decay curve



Typical intensity of afterglow according to the German norm DIN 67510-1:

Photoluminescent pigments and products - Part 1:
 Measurement and marking at the producer
 after 5 minutes: 301 mcd/m²
 after 10 minutes: 151 mcd/m²

RANGE OF COLOURS.

The basic ink mixing system consists of basic fluorescent color (Transparent colour only).
 Special colours on request.

ADDITIVES:

Thinner:

Prior to production, the screen printing ink has to be adjusted

to the printing viscosity by the addition of thinner.

Thinner, very fast add (15 - 25 %) DLT146

Thinner, standard add (15 - 25 %) DLT148

While printing on plastics such as ABS, acrylic glass and styrene, tension corrosion can appear while using certain solvents.

In order to avoid such effect the special thinner 35 696 should be used.

Special Thinner add (15 - 25 %) DLT122

Screen printing process:

For screen printing we will recommend to use the thinner

DLT150 as well as the retarder	ANX183.
Thinner, slow add (25-35) %	DLT150
Retarder add (15-25) %	ANX183

Retarder:

Retarder will influence the drying time of the ink under different climate conditions. Retarder ANX233 is a medium drying retarder, DLT140 is a very slow drying retarder. While using the ink under extreme climate conditions (Temperature higher than 28°C) it is recommended to use the retarder ANX233 as a thinner to adjust the viscosity of the ink.

Retarder, standard add (5 – 10 %) ANX233

Retarder, slow add (max. 5 %) DLT140

It must be noted that an excessive addition of retarder may negatively influence the ink transfer and the bulk goods resistance, due to the slow evaporation of the retarder. Retarder DLT140 should only be used in conjunction with thinner DLT148 or retarder ANX233.

Hardener:

Hardener CAT135 is the standard hardener. The mixing ratio is 10 parts of ink with 1 part of hardener. At room temperature of 20°C a pot life of approximately 8-12 hours can be achieved. Hardener CAT133 is recommended in

order to achieve a higher weather resistance as well as for the use of closed systems. The reactivity of the hardener is lower in comparison with the hardener CAT135, so the pot-life will be 12 – 14 hours. The final hardening of the film will be finished after 2 days.

Hardener, standard add (10 %) CAT135
 Hardener, add (10%) CAT133

Please note that the final chemical and physical resistance of the ink is only achieved after 36 hours at room temperature of 20°C.

During processing and drying of the printed ink, the temperature should not be lower than 15°C otherwise the chemical crosslinking is stopped. Also avoid high humidity for several hours after printing as the hardener is sensitive to humidity. While using hardener please note that multicolour jobs have to be printed during 36 hours. The completely dried ink can not be overprinted.

Levelling Agent:

The levelling of the ink surface can be optimised by the use of a levelling agent. It must be noted that excessive addition of levelling agent can have a negative influence on the overprintability.

Levelling Agent add (max. 0,5-1 %) EQS223

PROCESSING INSTRUCTIONS:

Pre-treatment:

Pre-treatment of polyolefins (PE/PP) must be performed by Flame Treatment or CORONA-discharge in order to insure the adhesion of the screen printing ink to the substrate. In case of PE, surface tension needs to be at least 42 mN/m (Dynes/cm), in case of PP at least 52 mN/m (Dynes/cm).

Stencils/Printing Equipment:

The inks of farba night glow series can be printed with all commonly available screen and pad printing machines with the general using screen printing meshes as well as clichés and pad types. It can be used for screen printing machines with printing speeds of about 1.800 – 3.600 pieces/h with screen printing stencils currently used for industrial applications.

However, it must be taken into consideration that the type (screening) and etching depth of the cliché, the shape and hardness of the pad, the setting of the color (thinner or retarder) and the printing speed have an influence on the printing result.

Curing Conditions:

The inks of farba night glow series are physically drying through the evaporation of solvent during 5 min. at 20°C and then are drying chemically by the addition of hardener. While multicolour printing we recommend a intermediate drying process by infrared lamps or hot air blower. The finally drying

will be achieved at 40 – 50°C during 1 – 2 minutes.

CLEANING:

Clichés, squeegees and so on can be cleaned with the Farba Universal cleaner RFR251. It must be noted that the screen does not come into contact with solvents. For the cleaning of the screen please see to the application references of the screen manufacturers. If cleaning is not performed by fully automatic cleaning equipment, protective gloves must be worn.

Universal Cleaner RFR251
 Cleaner for cleaning equipment RFR263
 Biodegradable Cleaner RFR197

SHELF LIFE:

A shelf life of 12 months is guaranteed when storing the inks at 21°C in the original packing container. At higher storage temperatures the shelf life will be reduced.

PRECAUTIONS:

For further information on the safety, storage and environmental aspects concerning these products, please refer to the Material Safety Data Sheet (MSDS).

Additional technical information can be obtained from our Technical Application Department.

Marketed By:

SPINKS INDIA

**Plot No 135, Pace city I,
 Sector 37, Gurugram
 Haryana- 122001(India)**

Email ID - www.farbatechinks.com