

Free Series

Code 170---

PRODUCT DESCRIPTION

A series of Pvc-free Plastisol inks for textile printing.

In compliance with the main Eco-friendly specifications.





APPLICATION FIELDS




For ready-to-wear or pre-cut articles. Indicated for using onto automatic, semi-automatic and manual machines.

GENERAL FEATURES

- Ready-to-use inks
- PVC-free
- Free from Phthalates and Heavy Metals
- Excellent wet-on-wet printability
- Excellent stability in the screen
- Matt finish
- Very low tack
- Good general fastness
- Dedicated Matching System formula guide
- Versatile and universal

PRODUCT RANGE

FREE MIXING WHITE Code M170212		<ul style="list-style-type: none"> • Semi-opaque for <i>matching system</i> • Matt finish • Max. 120 Th/cm • Curing at 150°C – 160°C for 3 minutes
FREE FLASH WHITE Code M170213		<ul style="list-style-type: none"> • Ideal for printing of “backgrounds” • Quick drying under IR flash lamps • High stability in the screen, max 90 Th/cm • Curing at 150°C – 160°C for 3 minutes
FREE STANDARD COLOURS Code M1702--		<ul style="list-style-type: none"> • Semi-opaque colours for matching system • Matt finish • Soft touch • Max 120 Th/cm • Curing at 150°C – 160°C for 3 minutes
FREE OP COLOURS Code M17023-		<ul style="list-style-type: none"> • A selection of 6 opaque and brilliant colours • They do not need the previous printing of a white background, when printed onto a mid-intensely coloured fabric • Max 120 Th/cm • Curing at 150°C – 160°C for 3 minutes
FREE PROCESS COLOURS Code M17022-		<ul style="list-style-type: none"> • A transparent series for four-process colour printing • Excellent wet on wet printability • Max 120 Th/cm • Curing at 150°C – 160°C for 3 minutes
FREE FLUO COLOURS Code M17024-		<ul style="list-style-type: none"> • A selection of 5 fluo colours • Good opacity • Curing at 150°C – 160°C for 3 minutes

FREE TRANSPARENT Code M170214		<ul style="list-style-type: none"> • Ideal for printing of Glitters or as a base to be mixed with colours • High stability in the screen, no tack • Curing at 150°C – 160°C for 3 minutes
FREE 3D TRANSPARENT Code M170260		<ul style="list-style-type: none"> • Ideal for printing of 3D effects with square edge and matt finish • Good elasticity and flexibility • Curing at 150°C – 160°C during 3 minutes
FREE ANTI BLEEDING GREY Code M170215		<ul style="list-style-type: none"> • Ideal for printing of “under-bases” onto fabrics sensitive to bleeding • High stability in the screen, max 43 fili/cm • Curing at 150°C – 160°C for 3 minutes
FREE PUFF ADDITIVE Code 170302		<ul style="list-style-type: none"> • Additive to print puff effect • Curing at 150°C-150°C for 3 minutes • Add max. 20%

AUXILIARIES

FREE THINNER Code M170301	<ul style="list-style-type: none"> • It improves ink fluidity • Slightly matter appearance of the prints • Add max 5%
FREE QUICK GEL 557 Code M170300	<ul style="list-style-type: none"> • It reduces IR flash lamp drying time • It increases rubbing fastness and elasticity • Add max 15%

PRINTABILITY

Free has an excellent printability up to 120Th/cm onto a wide range of fabrics, such as cotton and synthetic fibres for clothing and sportswear.

For the best colour opacity and brightness, during printing, it is recommended to adjust the out-of-contact and the pressure of the squeegee at their best, in order to obtain an ink film that can remain onto the surface of the substrate. An optimal out-of-contact allows to achieve better results as regards:

- the good definition of the prints
- an important reduction of the possible Build-Up
- a higher speed of the squeegee, compared to a screen having contact with the print

The opacity is influenced by the kind of drawing, the Th/cm screen number, the squeegee, the pressure and the printing speed.

DRYING WITH INTERMEDIATE FLASH LAMPS

Plastisol inks are distinguished by their gelling temperature.

This is an intermediate phase, where the partial fusion between the solid and the fluid components allows to the ink to lose its surface tack, so that it is possible to overprint another colour.

There are different kinds of IR Flash lamps and various substrates, onto which it is possible to print the inks; for this reason, it is not possible to give detailed information about the times and the powers of the lamps. So, it is recommended to do preliminary tests.

The ideal temperature and IR radiation time, allowing to achieve the best result, have to be determined according to the kind of work to be realized and the thickness of the laid ink film.

Free Flash White is the white ink for the realization of backgrounds onto mid-dark or dark substrates with a good opacity and IR drying fastness, printable up to 90Th/cm.

The coloured series presents a good wet-on-wet printability up to 4-5 colours. If the kind of drawing and the thickness of the laid ink film do not allow wet-on-wet printing, it is suggested to add *Free Quick Gel 557* – in the colours of the *Free*

series only – in order to increase the drying speed with intermediate IR lamps.

Free Quick Gel 557 has not to be confused with an additive that can reduce curing temperature.

Avoid too long intermediate drying times under IR Flash lamps. Actually, too long times may compromise the adhesion of the over prints.

CURING

The ideal conditions for a complete and correct curing are: 150°C during 3 minutes.

Since it is a thermoplastic ink, the complete and correct curing of *Free* is achieved when the optimal time and temperature conditions are applied to the ink film during the whole process.

The addition of possible additives, the thickness of the laid film, the nature of the printed substrate and the available equipment may require an adjustment of the time and temperature parameters. The ideal conditions must be determined through preliminary tests, before starting the industrial production.

FASTNESS

Free does not resist dry cleaning, bleaching and ironing.

The general fastness is comparable as per the hereunder table.

	Wash Fastness	Dry rubbing	Wet rubbing	Elasticity
FREE	4	3	3	4
TEXIPLAST 7000 OP	5	4	4	5
TEXIPLAST 7000 MS	5	4	4	5

Key: 5 Excellent, 4 Very good, 3 Good

An incorrect curing determines a scanty washing fastness, a low adhesion and poor general using resistances.

The use of *Free Quick Gel 557* is recommended only if it is necessary to:

- slightly increase rubbing fastness

- increase the elasticity

Fibrillation is a situation occurring when the surface fibres of the substrate pass through the ink film, after frequent washing and drying. This phenomenon appears as a faded print and has not to be confused with a low washing fastness.

This event is often due to the kind of substrate to be printed: adjustments, such as the squeegee inclination and pressure, the optimization of the out-of-contact and the intermediate drying time under IR lamps, may lighten the problem, but they can't solve it completely.

Before starting the industrial production, it is recommended to always check that the application conditions are correct for the kind of substrate and the required final effect, in order to achieve the best possible characteristics.

PRINTS TOUCH AND ASPECT

The matt aspect, together with particularly bright colours, makes *Free* very valuable for the achievement of good quality prints. The selection of the appropriate threads number and the optimal ink layer allow to obtain a particularly soft and valuable touch.

MATCHING SYSTEM

Through a dedicated software, it is possible to have general instructions to realize a wide range of colours by mixing the inks of the *Free* series.

Some pale colours or some shades requiring a mixture of small amounts of certain colours may be strongly influenced by the colour of the fabric which they are applied onto, as well as by the used threads number and the thickness of the ink film.

It is recommended to always test the colours, before starting the industrial production.

HOMOLOGATIONS

Free does not intentionally contain the phthalates that are banned by the main specifications and norms (lower than 0,1% di DEHP, DBP, BBP, DINP, DNOP, DIDP).

Free results to be homologable for OEKOTEX Standard 100, GOTS and RSL NIKE.

Before printing of this ink, make sure that squeegees, counter-squeegees, screens and cases



have been cleaned well from possible rests of other ink series. The possible "pollution" would compromise its technical features and its compliance with the eco-friendly specifications.

WARNING

This technical data sheet does not replace either the Safety Data Sheet or the specific Conformity Declaration. These documents may be required to our SHEQ (Product safety office), at the following e-mail address: safety@eptainks.com.

The technical data sheet does not relieve the printer, who remains the only responsible of the respect of the regulations, the specifications and the related required certifications of the finished items.

IMPORTANT NOTE

The information given in this technical sheet is not intended to be exhaustive and any person, using the product for any purpose other than that specifically recommended in this sheet without first obtaining written confirmation from us to the suitability of the product for the intended purpose, does so at his own risk.

While we endeavour to ensure that all advice we give about the product is correct, we have no control over either the quality or condition of the substrate or the many factors affecting the use and application of the product.

Therefore, unless we specifically agree in writing to do so, we do not accept any liability whatsoever or howsoever arising for the performance of the product or for any loss or damage arising out of the use of the product.

The information contained in this sheet is liable to modification from time to time in the light of experience and our policy of continuous product development.