

PETHF ULTRA Series A

Halogen Free Speciality Screen Ink

Issue No. 008/2019

IcoTech PETHF ULTRA Series A is designed for printing onto PC, PET and Polyester materials.

This series is formulated free of Halogens and Polycyclic Aromatic Hydrocarbon (PAH) solvents. PETHF ULTRA Series A also exhibits excellent adhesion and flexibility, but with good rubbing and scratch resistance.

Applications

PETHF ULTRA Series A has excellent adhesion to untreated and pre-treated polyester film and is very suitable for producing PET stickers.

It can be utilised in a wide range of applications like membrane switch, embossing and laptop keyboard printing, as well as electronic labels.

Properties

Physical properties:

Environmentally safe. Excellent flexibility. Outstanding oil, alcohol, petro and weathering resistant. Excellent screen stability and printability with high colour density.

Mechanical properties:

Excellent adhesion to various plastic like polycarbonate, polyester films and resistance to chemicals and other industrial products. Also withstands punching, bending and forming - suitable for post-processing steps.

Drying

PETHF ULTRA Series A provides both good screen stability and fast drying. The inks can be surface dried with convection dryer at 80°C in 60 seconds or 50°C in 120 seconds.

Overprints may require additional dwell time.

For complete drying, infrared dryer at 120°C in 90 seconds minutes is required, dependent on substrate and ink deposit.

If multilayer printing is required (such as membrane switch), longer drying time is recommended.

Thinning

All inks should be stirred well prior to use.

PETHF ULTRA Series A should be thinned with 10-25% ZV541 Thinner.

For hot shop conditions or in slow / detailed print processes, Retarder PET558HF may be used as a replacement.

Main Characteristics

Finish

Smooth Matt

Properties

- High flexibility
- Excellent screen stability and printability
- High colour density.
- Good chemical resistance
- Outstanding outdoor weathering resistance
- Excellent adhesion onto PET, PC, Polyester
- Environmentally safe

Drying

Surface drying: Convection dryer at 80°C approx. 60 sec /
Convection dryer at 50°C approx. 120 sec

Complete drying: Infrared dryer at 120°C 90 sec.

Thinning & Wash Up

10-25% ZV541

For hot shop conditions, use PET558HF

Mesh

Nos.90-120 thread/cm (220 - 300 thread/inch) monofilament
(Sefar 1500 series Recommended)

Stencil Type

Recommended: Dirasol22, Dirasol32 and Dirasol 915

Coverage & Mesh

50-60 m²/kg No. 120 thread/cm / 300 thread/inch

Applications

Plastics: PC, PVC, ABS, PET (especially untreated and pre-treated polyester films and stickers)

IMPORTANT: Stir well before use. Always test adhesion and performance properties prior to commencing production as there may be variation from the batch-to-batch and supplier-to-supplier substrates.

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Performance Characteristics

Ink: ULA023HF with 10% ZV541
 Substrate: Un-treated PET
 Drying: at 100°C, 60 seconds, then left at room temperature for 24Hrs

TEST METHOD	RESULTS
Cross-hatch Adhesion Test	100/100 Passed
Pencil hardness Scratch Test	2H
Artificial Weathering test: Xenon Bulb SAE J1960 800 hours	Passed 5/5*
Alcohol Resistance Test - 50 rubs with 99.5% ethanol	Passed - no loss
Alkali resistance Test - 5%NaOH, 48 hours	Passed - no loss
Acid resistance Test - 5%H ₂ SO ₄ , 48 hours	Slight blemishing
Oil Resistance Rub Test - 100 rubs with Motor oil	Passed - no loss
Eraser Abrasion test - 500 double rubs with 500-gram-load, stroke : 80mm	Passed

*All test result shown above are based on our laboratory test, where 800 hours is equivalent to 1 year external durability in a temperate climate.

Safety and handling and Environmental Info.

IcoTech PETHF ULTRA Series A:

- are formulated to be free from any (toxic) carcinogenic, mutagenic or repro-toxic chemicals
- are formulated free from lead and other heavy metals and are tested to:
 - * EN71-3:2013 Toy Safety Standard
 - * RoHS 2011/65/EU "Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment
 - * ZEK 01-08 mandatory PAH testing for GS certification
- Does not contain ozone depleting Chemicals as described in the Montreal Convention
- Are free from halogens

Colour Range

PETHF ULTRA Series A are available in 14 shades, including 13 intermixable colours and Extender Base:

ULA007HF	Dense Black
ULA023HF	Opaque White
ULA064HF	Yellow GS
ULA066HF	Yellow RS
ULA114HF	Orange
ULA121HF	Red YS
ULA127HF	Violet
ULA164HF	Red BS
ULA165HF	Magenta
ULA203HF	Light Blue
ULA230HF	Deep Blue
ULA236HF	Reflex Blue
ULA325HF	Green
ULA381HF	Extender Base

Available in 1 Kg pack sizes

Thinner:

ZV541	Thinner
PET558HF	Retarder

Available in 1 and 5 Ltr pack sizes

Hardener

PE386	Hardener
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Available in 1 Ltr pack sizes

The information and recommendations contained in this Product Information sheet, as well as technical advice otherwise given by representatives of our Company, whether verbally or in writing, are based on our present knowledge and believed to be accurate. However, no guarantee regarding their accuracy is given as we cannot cover or anticipate every possible application of our products and because manufacturing methods, printing stocks and other materials vary. For the same reason our products are sold without warranty and on condition that users shall make their own tests to satisfy themselves that they will meet fully their particular requirements. Our policy of continuous product improvement might make some of the information contained in this Product Information sheet out of date and users are requested to ensure that they follow current recommendations.

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