

IcoTech PET HF

Halogen Free Speciality Screen Ink for PET

Issue No. 008/2019

IcoTech PET HF products are designed by ICONINKS to be utilised in a wide range of electronic applications.

Formulated free of halogen and low in Polycyclic Aromatic Hydrocarbon (PAH) solvents, IcoTech PET HF has excellent adhesion to untreated and pre-treated polyester film and PET stickers – as a one pack product.

IcoTech PET HF is also recommended for membrane touch switch, embossing and laptop keyboard printing.

Colour Range

IcoTech PET HF inks are available in 13 shades, including 11 standard intermixable colours and two matt colours

Where greater transparency is required, IcoTech PET HF Gloss Extender Base PET381HF can be added.

Overprinting of IcoTech PET HF colours by PET381HF Extender Base improves rub, abrasion and chemical resistance.

Catalyst

For maximum resistances and adhesion are required, the ink should be catalysed before use.

Estimate the amount of ink required for a day's work and thoroughly mix the ink base and catalyst in the following ratio:

PE386 Catalyst 3 – 5%

Catalysed inks have a pot life of approximately 8 hours. All the catalysed ink left over at the end of the printing run must be discarded.

Drying

IcoTech PET HF will typically jet-dry at 80°C in 15-30 minutes. Overprints may require additional dwell time.

IcoTech PET HF inks may air dry in 30-45 minutes dependent on substrate and ink deposit.

Maximum adhesion and resistance will only be developed 24 hours after printing.

Thinning

All inks should be stirred well prior to use.

IcoTech PET HF should be thinned with 15-25% Thinner PET557HF.

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

Pre-Production Tests

It is strongly recommended that all substrates be tested before use as supposedly similar substrates can vary between manufacturers and even between different batches from the same supplier.

Main Characteristics

Finish

Satin / Gloss (when using PET381HF)

Drying

Stoving : 80°C 15-30 minutes

Thinning & Wash Up

15-25% ZVC557HF

For hot shop conditions, use PET558HF

Mesh

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

Stencil Type

Recommended: Dirasol22, Dirasol32 and Dirasol 915

Do not use with solvent adhering film or Stenplex Amber

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)

Properties

Physical properties: Environmentally safe. Excellent flexibility. Light and water resistant. Excellent screen stability and self-solvency. Good petrol resistance

Mechanical properties: Excellent adhesion to polyester films and resistance to chemicals and other industrial products. Also withstands punching, bending and forming.

Chemical Resistance

With fully cured (after 24 hours when catalysed), IcoTech PET HF inks exhibit exceptional resistance to most common chemicals including as acids, alkalis, as well as solvents, alcohol, petrol, grease, cosmetics, detergents and household products.

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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Plastics

Certain plastics may be impregnated with lubricants which, like plasticiser migration, may impair adhesion and block resistance even after a considerable time after printing.

This may be overcome by wiping the surface with a suitable PAH free solvent (**ZVC557HF** is suitable) prior to printing.

Surface adhesive left from protective papers on rigid PVC and acrylic sheets should be thoroughly removed in line with suppliers instructions.

Certain plastics may embrittle after printing, possibly up to several weeks after printing; potentially to the point of shattering.

It is essential to check compatibility of both single pack and the two pack **IcoTech PET HF** inks against this common problem.

Colour matching

IcoTech PET HF colours have been specifically chosen to ensure that the cleanest shades, with the widest available colour gamut have been utilised.

Particular colours may be matched from the range of 12 intermixable colours (9 colours + mixing white, black and extender base). Colourmatched inks can also be supplied against prints, wet ink samples, PANTONE® references, British Standard Colours, 'HKS' and 'Munsell' Numbers.

A sample of the substrate to be printed with the number and type of mesh to be used as well as other relevant data should be attached to orders.

Tape Acceptance

IcoTech PET HF has excellent acceptance of application and pre-space tapes. However, due to variations in their tack level, the particular tape to be used should be tested before commencing a production run.

It is essential that inks and varnishes are thoroughly dried before application of tapes.

For catalysed systems this should be a minimum of 24 hours after printing.

Standard Colour

IcoTech PETHF colours:

PET001HF	Black
PET007HF	Matt Black
PET021HF	White
PET023HF	Matt White
PET064HF	Yellow (GS)
PET066HF	Yellow (RS)
PET114HF	Orange
PET127HF	Violet
PET164HF	Red (BS)
PET165HF	Magenta
PET191HF	Red (YS)
PET230HF	Blue
PET325HF	Green
PET381HF	Gloss Base
PET383HF	Extender Base

Available in 1Kg pack size

PE386	Catalyst
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Available in 1KG pack size

ZVC557HF	Standard Thinner
PET558HF	Retarder

Available in 1 and 5 ltr pack sizes

Safety and handling and Environmental Info.

IcoTech PET HF inks

- are formulated to be free from any (toxic) carcinogenic, mutagenic or reprotoxic 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

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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