

# Uvijet FUSION PRIMERS

**Uvijet Fusion Primers have been specifically developed to aid adhesion and mechanical abrasion resistance of Fujifilm's Uvijet digital ink systems onto a wide range of substrates such as: Acrylic, PVC, Polycarbonate, Fluted Polypropylene and PETG.**

Uvijet Fusion primers can also be used to aid specific finishing requirements such as cutting/guillotining and routing. In these instances it may not be necessary to prime the whole substrate surface, but wipe only those areas where finishing will occur.

#### **The range comprises 3 products:**

Uvijet Fusion Adhesion Promoter ZE680  
Uvijet Fusion Adhesion Master ZE720  
Uvijet Fusion Ultra ZE700

#### **Uvijet Fusion Adhesion Promoter ZE680**

ZE680 is an optically clear, fast drying, solvent-based primer developed to facilitate adhesion between Uvijet UV curable digital inks and plastic materials such as Gloss Rigid PVC, Acrylic and PETG.

Uvijet Fusion Adhesion Promoter ZE680 creates a chemical bond between Uvijet digital inks and the substrate surface. Developed from Fujifilm's detailed understanding of decorating rigid materials ZE680 Fusion Adhesion Promoter can also be used to clean surface contamination from substrates prior to printing. The use of ZE680 will modify the surface energy of the substrate and as a result the print quality achievable may be enhanced further.

Uvijet Fusion Adhesion Promoter ZE680 is available in 1 ltr containers.

#### **To apply ZE680**

- Remove any protective film from the substrate.
- Remove any excess dirt with a dry cloth.
- Soak a lint-free cloth such as Clean Room Wipes WSD02 available from Sericol with ZE680 and wipe the entire substrate surface.

**Ensure that advice detailed within the product safety data sheet on protective equipment and ventilation is followed.**

- Once the whole surface of the substrate has been primed allow a minimum of 5 minutes prior to printing.
- Print onto the primed surface.
- Depending on the substrate and ink film deposit the chemical bond may take upwards of 24 hours to complete.
- *Where the printed image is only part of the total sheet size, it might not be necessary to prime the whole substrate surface, but wipe only the effective areas.*
- **It is recommended that primed substrates are printed within 4-5 hours of treatment.**

#### **For use as a cleaner**

ZE680 has also been formulated to act as a cleaner for rigid materials prior to printing. By wiping the substrate surface and leaving to dry prior to printing ZE680 will remove dirt and particulate matter, which can impair ink adhesion.

#### **For use as a static reducer**

ZE680 can also be used to reduce Uvijet ink drop deflection and the build up of airborne particles being attracted to the surface during printing.

#### **Uvijet Fusion Adhesion Master ZE720**

ZE720 is an optically clear, slower drying, solvent-based primer specifically developed to improve adhesion of Uvijet onto the more difficult rigid materials such as Fluted Polypropylenes and Polyethylene. Because of the inert nature of polypropylene materials such as 'Correx' and 'Priplac' the drying time for ZE720 is longer than that of ZE680, with drying times in a well-ventilated area of 10-20 minutes required in order to achieve full adhesion. Uvijet Fusion Adhesion Master ZE720 is available in 1 ltr containers.

#### **To apply ZE720**

- Remove any protective film from the substrate.
- Remove any excess dirt with a dry cloth.
- Soak a lint-free cloth such as Clean Room Wipes WSD02 available from Fujifilm with ZE720 and wipe the entire substrate surface.

**Ensure that advice detailed within the product data sheet on protective equipment and ventilation is followed.**

- Allow to dry – normally 10-20 minutes depending on the substrate size and drying conditions.
- Print onto surface.

The viscosity of ZE720 makes it suitable for application by roller or pad. See the additional application advice below.

- The chemical nature of ZE720 is such that the primer can be applied up to 2 days prior to printing without any adverse effects on ink adhesion or outdoor weathering.
- Depending on the substrate and ink film deposit the chemical bond might take up to 24 hours to complete.
- Materials primed with ZE720 in this manner prior to printing will have greater water resistance for prolonged outdoor use.
- ZE720 has a lower odour than ZE680 and can be used on other plastic materials where the odour of ZE680 is considered problematic.

## Uvijet Fusion Ultra ZE700

ZE700 contains a small amount of uv monomer, and is an optically clear, ultra fast drying, solvent-based primer specifically developed to enhance adhesion between Uvijet UV curable digital inks onto the more difficult rigid materials such as PVC, Polystyrene and Polycarbonate. Since Uvijet Fusion Ultra ZE700 is fast drying, substrate can be printed within 5 minutes of application.

### To Apply ZE700

- Remove any protective film from the substrate.
- Remove any excess dirt with a dry cloth.
- Soak a clean lint free cloth, such as Clean Room Wipes WSD02 available from Fujifilm, with ZE700 and wipe the entire substrate surface. It is important to use a new clean cloth for each application. Failure to do so may result in yellowing or other discolouration of the substrate caused by build up of ZE700 on previously used cloths.

Ensure that advice detailed within the material safety data sheet on protective equipment and ventilation is followed.

- Print onto the primed surface.
- Depending on the substrate and ink film deposit, the chemical bond may take upwards of 24 hours to complete.
- It is recommended that primed substrates are printed within 2-3 hours of treatment.

The viscosity of ZE700 also makes it suitable for application by roller or pad. See the additional application advice section below.

- Apply ZE700 evenly to the material and allow to dry.
- The chemical nature of ZE700 is such that the primer can be applied up to 2 days prior to printing without any adverse effects on ink adhesion or outdoor weathering.
- Depending on the substrate and ink film deposit, the chemical bond might take up to 24 hours to complete.
- Materials primed with ZE700 in this manner prior to printing will have greater water resistance for prolonged outdoor use.
- ZE700 has a lower odour than ZE680 or ZE720 and can be used on other plastic materials where the odour of ZE680 is considered problematic.

## Additional application advice for Fusion Primers

There are various application methods for Primers currently used by digital printers:

- lint-free cloth (eg Clean Room Wipes WSD02)
- paint roller
- paint pad

Pour the Primer into a shallow tray. Immerse or soak the cloth/roller/pad in the Primer and remove any excess. Alternatively, pour the Primer directly onto the substrate and wipe over the surface.

Apply directly to the substrate, using one of the methods above, to give an even, smooth coating. When applying the primer it is important to avoid over-wiping, as this will result in poor flow and inconsistent thickness and will be visible on transparent substrates. Use a sweeping motion and avoid excessive overlaps and streaking. Take care that over-use of the Primer does not excessively damage the paint pad or roller.

| Quick reference Guide |                   |       |            |
|-----------------------|-------------------|-------|------------|
| Substrate             | Primer            |       |            |
|                       | ZE680             | ZE700 | ZE720      |
| Display Board         | n/a               | n/a   | n/a        |
| Corrugated Board      | n/a               | n/a   | n/a        |
| Foam Centred Board    | n/a               | n/a   | n/a        |
| Dibond Digital        | n/a               | n/a   | n/a        |
| APET                  | ✓                 |       |            |
| Acrylic               | ✓                 |       |            |
| Foam PVC              | ✓                 | ✓     |            |
| Flexible PVC          |                   | ✓     |            |
| Self Adhesive PVC     |                   | ✓     |            |
| Polystyrene           | DO NOT USE        | ✓     | DO NOT USE |
| Gloss Rigid PVC       | ✓                 | ✓     |            |
| PETG                  | ✓                 | ✓     |            |
| Polycarbonate         |                   | ✓     |            |
| Polypropylene         |                   |       | ✓          |
| Polyethylene sheet    |                   |       | ✓          |
| Formica               | ZE720 + 5% NB386* |       |            |

\* use in accordance with the appropriate safety data sheet

### Notes:

- the use of primers may highlight certain characteristics already present within the substrate itself
- Ensure that after usage lids are always replaced on containers to avoid evaporation.
- Please note that ZE680 and ZE720 may not be used on Polystyrene as the surface is attacked by the solvents.

## General Advice – Uvijet Digital Inks

Always check the adhesion performance of Uvijet onto the selected media before committing to a print run. To minimise edge chipping stand prints for 24 hours before finishing. When printing clear materials prime the whole surface to avoid any optical differences in clarity. Images containing large areas of block colour should always be printed at the minimum speed to give the best finish. Corona treated materials such as 'Correx' degrade over time, so wherever possible use fresh stock. For backlit signage where possible leave a 3mm clear border around the image area.

## Storage

In the interest of maximum shelf-life storage, temperatures should be between 5 and 30°C. If stored under these conditions Uvijet primers are expected to have a shelf-life of 12 months from date of manufacture.

## Fujifilm Speciality Ink Systems Limited:

- Has certification to the International Environmental Standard, ISO 14001.
- Is committed to minimising the risk to users of our products, and also to minimising the impact of our activities on the environment, from formulation through to production and supply.
- Research & development team, work to an in house Health, Safety and Environmental policy, termed 'Design for Health, Safety and Environment', with the aim of proactively developing products with the least impact on health, safety and the environment.
- Regularly review and monitor our impacts and activities, setting objectives and targets as part of a continual improvement process.
- Is committed to reducing waste through better use of raw materials, energy, water, re-use and recycling.

## Safety and Handling

### Uvijet Fusion Primers

Comprehensive information on the safety and handling of Uvijet Fusion Primers is given in the appropriate Safety Data Sheets available upon request.

## Environmental Information

### Uvijet Fusion Adhesion Promoter - ZE680 and Uvijet Fusion Ultra - ZE700

- Do not contain ozone-depleting chemicals as described in the Montreal Convention.
- Are formulated free from aromatic hydrocarbons.

### Uvijet Fusion Adhesion Master - ZE720

- Does not contain ozone - depleting chemicals as described in the Montreal Convention.

**The information contained in this information sheet is intended to be used as a guide to ink and substrate performance based on current knowledge. However, users should always satisfy themselves that prints will fully meet their requirements before use as results are also dependent on image, ink selection, film weight, substrate and UV lamp output.**

