

Adhesion & Print Longevity

Adhesion:

The UV cured ink has been formulated by the manufacturers to be used on glass, plastics and stainless steel as well as some coated metals.

In order to achieve optimum adhesion we need to pre-treat most substrates prior to the print process. Pre-treatment consists of a flame treatment as well as a wipe on primer, which varies depending on the substrate.

To test the adhesion, we go by our manufacturers guidance - depending on the type of substrate, we will perform either a single or a combination of the below tests:

- *Initial scratch test* - this is done by using the force of a fingernail against the ink - the print is scratched (not picked) to provide an initial adhesion test.
 - *Cross hatch & tape test* - using a blade to scratch in to the surface of the print in a cross hatch pattern then apply and remove scotch tape.
 - *Heat test* - particularly for hot drink vessels, the product is filled with hot water to ensure the heat does not affect the print adhesion.
 - *Dishwasher test* - although we recommend handwashing, an initial dishwasher test will tell us a lot about the adhesion of the ink to the substrate and its longevity.
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Longevity:

Plastics - most rigid plastics will only require a primer pre-treatment and the longevity of the print has a long life span. Flexible plastics such as squeeze bottles are not recommended with this ink due to the way in which it is cured, creating a hard shell. We recommend handwashing any printed substrate to prolong its vibrancy and durability, however, printed plastics will survive dishwashing.

Glass - depending on the intended use for the glass, whether decorative or barware, will determine the pre-treatment process. All glass requires flaming to remove post manufacturing coatings and to assist in long term adhesion. A wipe on primer is required to help the inks adhere to the surface. We recommend a prewash before using for bar ware to eliminate any pre-treatment residue. Industrial dishwashers can shorten the lifespan of the print on glass, we recommend hand washing printed glass to get the longest lifespan from your print.

Stainless Steel - uncoated stainless steel has really great adhesion and longevity, for optimum adhesion we recommend the pre-treatment flame and prime. We recommend handwashing any printed substrate to prolong its vibrancy and durability, however, printed stainless steel will survive regular dishwashing.

Coated Stainless Steel - this substrate can be particularly problematic due to inconsistencies of the coatings between different manufacturers and different batches. Some coatings contain levels of teflon which is a non stick material causing adhesion issues. We always recommend a pre-production test print so we can test a variety of primers to ensure optimum adhesion. And we ask that when supplying your own products, that you obtain as much information about the coating as possible from the manufacturer or supplier. Most coated substrates have a thermal or insulated aspect and therefore should not be put through a dishwasher, and we only recommend handwashing to prolong the print.

Other aspects to prolong print longevity:

Avoid contact with alcohol, this includes alcohol based cleaners, hand sanitisers, creams and sun lotion. Excessive contact with these alcohol based products can eventually soften the ink and cause it to chip or come away from the substrate.