

# Landor liquid lamination



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## Introduction

Thank you for taking the time to read the Landor Liquid Lamination Guide. It is intended to give you as much information as possible both as a guide but also and most importantly to get the best results, performance and durability and longevity from Landor Liquid Lamination protective coatings.

Landor Liquid Lamination Coatings are in essence protective coatings also known as Digital Varnish, Digital coatings. The main use and benefits of Landor Liquid Lamination protective coatings to provide the Durability, Protection, Longevity and value where inkjet prints would otherwise disappoint, either in terms of Lasting life, or environmental degradation indoors or outdoors. Landor Liquid Lamination Coatings are compatible with most mainstream inkjet inks and print media, but also work well with a wide range of other print technologies including laser, Screen, and Litho processes making it a popular and secure choice as an alternative to film lamination on rigid and flexible surfaces especially when Film Lamination simply is not compatible or will not work. An example of applications where Liquid Lamination is the only solution to meet the needs of inkjet Print stability or Durability and Longevity are pre-hung graphics, Truckside Curtain graphics, Flex face Signs or Graphics or any other applications using PVC banners or textured wall coverings; Installed Rigid boards, Fine Art Canvas, some textiles and Fabrics. In addition Landor Liquid Lamination protective coatings will also enhance colours, provide water resistance and safe and easy cleaning, and provide added and extended protection from abrasion and the premature ink fading or degradation from the effects of UV light when using inkjet print technologies. Despite all the light fastness, durability and water resistance improvements of Inkjet inks they still need protection where abrasion, UV light or water, or abrasion and chemical contact is likely to affect the Stability of, quality of the graphic image and longer life expected of it.

The Purpose of this Handbook is to answer many of your questions, offer insight into the ease and affordability of using Liquid Laminates and open up the many opportunities to providing you the user or the service provider the confidence and trust in overcoming some of the limitations of Inkjet when un-protected and above all the added value when quality and Image, and longevity is important or crucial. We hope that many of your questions will be answered with the help of this guide, whether you are a beginner or more experienced with liquid coatings. Our aim is to help you to get the very best out of our liquid coatings range. Remember our experienced team is only a phone call away, and we are committed to assist you in everything we can to ensure your projects are successful with advice regarding your individual application and ink/substrate compatibility, complimentary media, inks and lamination. As the manufacturing processes, chemistry and performance of substrates and inks are constantly changing it is important to tap into our resources that are at the forefront of this speciality global solution.

We undertake Training and Application Testing on a regular basis at our Main operations centre in Bolton, Lancashire, and Sales support office in Fleet, Hampshire, UK. Do not hesitate to call us on either of our Support Lines +441204-256266 or +44 1252 624411. Our Team are available during office hours and our phones are frequently open also outside working hours and weekends/Bank Holidays to respond as quickly or as immediately as possible to any unforeseen applications or challenges. We are also available by email [printsupport@landoruk.com](mailto:printsupport@landoruk.com). You are invited to visit us for additional hands on product demonstration and training both for existing projects as well as Products or projects in development.

## What are Landor Liquid Lamination Protective Coatings?

Landor Liquid Laminates can also be defined as Digital (ink) Protective Coatings, Varnish, Fixatives, We use the term Liquid Laminates and Liquid Laminates to better define the “Lamination” of ink and the ink surface. However its key benefit is the protection of ink that exposed and unprotected lends itself to fading (usually from UV Light or chemical degradation, abrasion from touch, or scratching, as well as degradation from the effects of water, chemical or pollution when in contact with the inks, or the inks surface. Landor Liquid Laminates are Clear Protective Coatings, which are an inexpensive, easy to apply and secure method to protect your prints, digital wall coverings, fine art canvas, signs, banners, truck sides, vehicle wraps and awnings as a small example. With the advance of Direct to print Rigid surfaces and Textiles and fabrics, Liquid Protective Coatings are a cost effective, easy to apply, and does not require expensive equipment; Most can even be applied by a hand roller, Brush or spray Gun. Unlike Film Lamination where there is excess film trimmed off and discarded, Liquid Protective Coating offers a low waste economical alternative and stable reliable bond to most substrates. Despite all the commercial statements today by ink and printer manufacturers, An ink and its quality and visual appearance is still vulnerable and subject to failure or premature degradation from the hazards of many different environments, indoors or outdoors,

There are two main Coating Technologies: Water based and UV Curable. However in addition to this there are Solvent Coatings also but due to the hazards of Handling, health and safety our primary products are Water Based and UV Curable. For some applications, such as Paper in the main we still offer (usually recommended) spray or Roll on Solvents as there is not established solutions for paper due to its high absorbency of water based liquids.

### Water Based Liquid Lamination

Landor Water Based Liquid Lamination Protective Coatings contain the most current innovations in high grade ultraviolet light inhibitors, polymer resins and stabilizers, creating a flexible protective coating, including a specific anti-graffiti version, on many substrates, including:

- Digital inkjet output
- Printed and airbrushed products
- Truck curtain sides
- Traditional signage and graphic art applications (i.e. canvas, banners, flex-face signs).
- Vehicle Graphics (Vehicle Wraps) and Transit Graphics
- Digital wall coverings (i.e. bedroom wallpaper or corporate branding).
- Indoor and Outdoor advertising and signage.
- Thermal transfer.
- Rigid Boards

No extra capital equipment is required to benefit from the advantages of Protective Coatings; however as volume and efficiency is greater demanded we have influenced and developed cost effective coatings systems.

Landor UK is an independent expert and specialist in the development, and distribution of Liquid Lamination coatings and Coating systems for the digital and Inkjet technologies and related applications. All our coatings, components, chemistry, use the highest

performance resins and polymer technologies to ensure optimum quality, protection and durability, as well as highfastness and extended durability. We also offer additional specialist and bespoke products or development services to address the specialist needs of our customers and the Market on request.

The key Benefits of Liquid Lamination:

- Protect and extend the life of printed inks from ultraviolet exposure
- Protect inks from abrasion, marring, and Handling
- Provide resistance against the exposure of inks to water, chemicals and pollution
- Enhance the quality and visual vibrancy of Digital images
- Refresh images
- Extend the lifetime of the printed image

## **Four main benefits of Landor Liquid Lamination Protective Coatings**

### **Liquid Lamination Coatings protect inkjet ink and substrates**

In digital printing, the ink held on the coating of the media must be protected from a number of hazards, environments or exposure:-

- Abrasion and scratching
- Wind, rain, pollution and wind-borne particles
- Moisture
- Handling
- UV exposure (ink fading)
- Chipping of ink from rigid substrates, especially U.V inks

One of the easiest and most economical methods of protection is with Landor Waterbased, solvent and UV curable coatings.

### **Liquid Protective Coatings enhance the colour of prints**

A Liquid Coating also enhances and sharpen the visual appearance of ink and deepens the colour and increases the colour density especially when applying Satin and Gloss versions. Tests have shown that even after long term exposure images can be made more vibrant with a secondary application of a Satin or Gloss Liquid laminates

### **Liquid Protective Coatings for traditional materials**

Traditional materials like painted surfaces and vinyl signage also benefit from Liquid Lamination Protective Coatings. Liquid Lamination Coatings also protect from peeling by sealing the edges of digital wall coverings (wallpaper), posters, vinyl graphics and lettering. Liquid coatings can significantly increase the life expectancy of plastic. Vinyl is protected without losing its flexibility. Our coatings enhance the visual appearance of many products by intensifying colours and making signs and banners look more unified and smooth.



## Liquid Protective Coatings increase the durability of substrates

Greater flexibility where no other means of protection will work, for substrates such as: banners, flex-face signs and canvas, yet also enables washing and archival protection without any risk of de-lamination, an issue prominent with adhesive protection films. Abrasion and chemical resistance is also assured with protective coatings. There is no viable protection of PVC banner and flexible canvas by use of Film Lamination.

## Choosing between Water based and Solvent Coatings

Our Landor Colour Shield Coatings are Water Based, and Landor Colourjet is Solvent Based. Both Coating chemistries are highly durable and provide comparable protection. Due to the nature of solvents, it is always best to try and work with water based coatings, due to the hazards and odours of solvent coatings, however if the results or ink+ substrate combination is not compatible then it is best to work carefully with the Solvent coatings. Usually our Solvent Coatings will work when Waterbased coatings are not compatible.

To decide which product to use, wet a small area of the print:

- If you see any water sensitivity, cracking or bleeding, choose Colourjet
- If there is no reaction to water or inks, choose either Solvent or Water based
- If you are coating solvent-based inks, typically choose Landor Colour shield

Some helpful technical information and advice:

- Most solvent based inks can be coated with water based liquid coatings, Landor Colour Shield is recommended and is available in different finishes: Gloss, Satting & matt
- Most eco-solvent inks and solvent inks are very slow to fully dry/cure and care must be taken to ensure that the inks are adequately cured before coating with Landor Colour Shield. It is recommended to leave at least 24 hours if at all possible before coating, or as a minimum, be sure to test to establish curing times needed. 24 hours is equally necessary between coating time and completing and finishing your print project after coating with Landor Colour shield. To get the best and more efficient cure be sure to work in ambient climate with good air circulation
- Infra-red driers are frequently used on most eco-solvent and some low volatility inkjet printers to ensure the inks are dry and fully cured
- Water based (Aqueous) dye inks are water sensitive, Landor Colourjet is recommended. Most water based pigmented inks are not entirely water sensitive; Landor Colour Shield is recommended for water based pigmented inks



## Landor clearshield Landor clearjet

### Landor Colour Shield Product Range

Landor Colour Shield is the Liquid Protective Coating for water resistant media/ink combinations, solvent, eco-solvent, latex and UV inks. Landor Colour Shield is available in several versions to match the needs of different inks, substrates, and applications.

#### Landor Colour Shield Universal Series

Landor Colour shield is your first choice for all non-water-sensitive applications.

- Landor Colour shield uses state of the art resins and ultraviolet inhibitors that protect the substrate, ink, and the clear coating itself
- These non-yellowing clear coatings have excellent exterior durability and are highly flexible

#### Landor Colour Shield LL Series

The LL range is designed primarily to be used with Automated Liquid Laminators.

- The LL range can also be applied manually by following our recommendations below in the section '*Landor Colour Shield' hand Tips for Colour shield and Colourjet hand application*' (pages 9-10).
- Landor Colour Shield LL Series is available in Gloss, Satin and Matte finishes.

#### Landor Colour Shield Premium Series

Landor Colour Shield Premium is highly elastic as with all our water based coatings but is developed for added scratch and abrasion resistance as well as improved chemical protection.

Best applied with Hand roller, Mop, or pain pad, but also with spray equipment or automated liquid laminators using Meyer bar (no 32 recommended) and IR heat systems such as the Landor 1600, (1.6m) and 3300 (3.3m) versions. Brush applications are also possible but must be generously applied.

By hand, most users simply pour the coating in puddles or lines on the material to be coated; they then use the applicator to spread the coating.

The level of care taken at this stage to apply an even coat and consistent coat will show in the final finished product. It is essential to have generous saturation of the liquid for best results and self levelling preventing roller or brush marks.

The Landor Colour shield Premium is formulated to provide added chemical resistance where environments or exposure to chemical, or heavy traffic areas are needed

Landor Colour Shield Premium is available in a choice of Gloss, Satin and Matt, images can be protected and the colours enhanced to the required gloss level.

For Extreme Protection of Aggressive chemicals (ie: Petroleum Spirit, MEK, IPA etc, Our Landor Colour Shield Premium 2C is recommended. Similar to the Premium series this formulation requires an additive in 5 parts Premium with 1 part Additive (20%); It must be homogeneously mixed and has a short pot life of 2-4 hours and any remaining mixtures must be disposed of as they will harden. Some extra life is possible if refrigerated. It requires additional Drying time 30-60 mins.

### **Landor Canvas Guard**

- Landor Canvas Shield Coatings (as well as Solvent Fine Art) is optimised specifically to produce the best protection and image enhancement on canvas prints by penetrating into the canvas texture and coating the inks, and prevent cracking of the Stretched Canvas prints.
- Landor Canvas Shield produces excellent results with other fine art papers. However water sensitive papers are less suitable as water in the coating can lead to paper cockling. Lower coat weights, and multiple low coat weights are possible on some papers especially if they are high quality coated or barrier coated papers
- Landor Canvas Shield is easily applied using hand rollers, providing close control of coating onto bespoke canvas and other Inkjet printer fine art media, but also performs particularly well with the Landor Series of Liquid Laminators.
- Smaller applications or occasional coating needs can be easily carried out by anyone with little risk of application failure. No need for capital equipment expense for a Liquid Laminator is necessary unless the volume is likely to grow at which point it will be more effective and productive using one of Landor Liquid laminators. Machine coating is more consistent and provides a more regulated top coat, reducing waste when using Manual methods. Productivity is therefore optimised with our Liquid Lamination Machines

### **Landor Anti-Graffiti Coating**

Landor Anti-Graffiti is a single or dual-component system, providing a protective and cleanable surface to guard against the effects of graffiti.

- Landor Colour shield Anti-Graffiti has a Gloss finish enhancing print colours and increasing UV protection. The base product 'Anti-Graffiti' coating can be



used as a protective coating by mixing with the Cross Linking hardener providing excellent surface adhesion, UV protection and Graffiti resist coating. Using the CX-100 additive will also provide added chemical resistance.

- Some ink systems today have resulted in the need to coat prints with our gloss or matt coating first as there can be some adhesion issues if anti graffiti is coated with out a first primer coat. It is not possible to coat more than one coating with Anti graffiti because of the nature of its anti graffiti protection!
- Tests have been carried out against several common chemicals. No effect was shown in a 10 minute spot test done with the following chemicals: Acetone, Toluene, Gasoline, Ammonia (5%) as well as withstanding 200+ double rubs of MEK. Any residual 'Anti-graffiti' liquid protective coatings that has been mixed with the CX100 must be used or discarded as it hardens within a short period of time.

### **Tips for ColourShield hand application**

New applications for Liquid Protective Coatings are regularly discovered. These instructions will help you get the best from Liquid Coatings in most situations. Further information is available at [www.liquid-lamination.co.uk](http://www.liquid-lamination.co.uk) or call our office on **+44 1252 624411** or email us at [info@liquid-lamination.co.uk](mailto:info@liquid-lamination.co.uk)

With Landor Colour shield, Water based version, bristle brushes can be used but a much better finish is achieved with the use of foam rollers and foam applicators, using our Viscous coating For roll applications, you'll get the best results with a 3/16" nap roller (not mohair) or a high density foam gloss roller, sometimes sold as varnish rollers. We do not recommend black foam pads or rollers because they occasionally bleed. Applying ColourShield Liquid Protective Coatings is an acquired skill.

It is very important to always work with full, wet coats. Water based products dry very quickly and will not level well if applied with a dry roller therefore it is important to always use ample liquid (saturated rollers) so that it does not dry too quickly while being applied, especially in hot and dry environments.

High solid black areas of printed ink, can in some instances, slightly distort the black image due to the U.V inhibitor. Some black inks also have water based molecules within to enhance the colour so it is always recommended to test such colours first. This can lead to some transfer of the black ink to the coating apparatus. Testing is highly recommended especially for solid black areas in the print.

### **Our recommendations are as follows:**

#### **Preparation**

1. Storage of Landor Colour Shield should be in a dry place not under +5°C. The product warranty or storage life is 12 month from manufacturers' production date. Semi-Gloss, Satin and Matt coatings should be stirred before use
2. Do not leave the bottles open for extended periods of time and ensure bottles are well sealed after use. Liquid coatings can react to air exposure if the bottles are

not re-sealed. This can lead to congealing (Strings and threads). If this occurs, the strings and threads need to be removed by re-filtering the liquid from the container. Strainers are best use for filtering. If these are left in the coating they can adversely affect the quality of the coating finish.

3. Re-filtering of the laminate is recommended if it has not been used for an extended period of time. After 6 months its adhesion quality can differ from its original performance quality.
4. For hand and machinery application dilution is not necessary however when using HVLP spray systems we recommend a maximum dilution of 10% with water.
  - We also recommend the use of a high density foam gloss paint roller or HVLP Spray system when applying Landor Colour Shield or Landor Colour jet liquid Lamination Protective coatings by hand.
  - For HVLP guns the pressure we recommend is 30 PSI at the gun. The ideal tip size should be 1.3 mm but you can use up to 1.6 mm.
5. Ensure that the room is dust free and well ventilated to improve curing and drying time. During coating, the ambient temperature target is 20°C with a relative humidity of 50%. Under 15° the adhesion and performance quality may be reduced
6. It is recommended that you let the ink on your print dry for 24 hours, inside in ambient conditions.
7. **Do not shake the liquid coating**, as this will cause undesirable bubbles in the coating. stir it well before use. After stirring it is recommended to leave the liquid to settle prior to coating as bubbles/foam can cause imperfections in the coating. Preparation of Landor Colour Shield should be in ambient temperature/humidity conditions prior to use. Aim to climatise the coatings 24h in advance if it is stored in a cold, damp environment.

## Application

8. Roll on the liquid with a generous saturation of liquid on the roller to enable and ensure a good flood coat of the surface. Using a back and forth motion, start in one corner of the print and roll to the opposite corner, drawing from the puddle you created when first placing the roller on the print. The roller should push out excess coating in the direction of the uncoated substrate. Apply as little pressure as possible making sure you do not overwork the liquid laminate, but apply a smooth layer of coating. Too much pressure can cause unwanted bubbles
9. Continue until you have completely covered the print or run out of liquid coating. If you run out, load and submerge the roller again and begin in the last wet area to be coated. Do not start in an uncoated area and roll back. This technique mimics the wet edge associated with spray application
10. To allow the coating to flow out, try to work wet (thicker, full coats). If the finish does not appear smooth enough (glass like) while still wet, you can reroll the print with the same roller you used. Do not saturate the roller again; reroll with a

moderately loaded applicator. This must be done very quickly after the initial application

11. Do not over roll the fluid as this can affect the quality of the finish (rough rather than smooth) as the coating needs to flow out and will self-level
12. If you want a second coat, wait for the first coat to fully dry (usually about 1 hour) and then apply the second coat at a 90 degree angle to the first Surface. Dryness is achieved after 20-30 minutes depending on the thickness of the coating applied (good drying properties after several hours) in normal warm/dry ambient conditions
13. Adhesion Test – Cross Hatch Test; is an essential test to ensure the quality of adhesion. It can be easily carried out, 24h after coating to verify the quality of adhesion. To do this use a sharp blade and score out a cross hatch on the coated surface. Take a strong adhesive tape such as packaging tape, ideally a clear tape. Place the tape diagonally over the cross hatch and then pull up firmly and quickly the tape from the cross hatch. If using a clear tape you can inspect for any trace of liquid laminate peeled off the surface of the graphic, and reside on the adhesive tape. If all is clear then you know you have good adhesion. If for any reason this has failed you should mark this test with a pen the number of hours since the coating was completed. Leave for another 24h. Sometime conditions may determine how soon the adhesion strength is permanent and complete. Try again and once successful you can determine the time required to obtain perfect adhesion.

### **Applying Landor Colour Shield Anti-Graffiti coating**

1. The component surface may be cleaned with a range of solvents including the Landor citrus based graffiti remover. The citrus based graffiti remover is a quick and environmentally friendly
2. For ultimate protection and adhesion add a top coat of Landor Colour Shield Gloss before applying the 'Anti-Graffiti'
3. To obtain the optimum anti-graffiti protection, add The Anti Graffiti Additive. Maximum mixing rate is 3ml of additive per litre of 'liquid (15ml per 5 litres)
4. The solution will start becoming gel like in 4-6 hours depending on the concentration of the hardener and the atmospheric conditions
5. Due to the Anti Chemical, Anti Graffiti properties Landor Anti Graffiti cannot be coated more than once. It will not take another coating. If extra protection is required it is essential to use the Landor Colour Shield as the primary and extra coating before using the Anti Graffiti coating.

**Any machines or equipment used must be thoroughly cleaned within this period otherwise damage can occur.**

### **Aftercare**

## Guide to Cleaning Coated Graphics

### **By Hand**

Use a wet, non-abrasive sponge or rag that has been soaked in a mild dish detergent and water mixture. It is better to use a cleaner that contains no solvents or alcohol. Solutions cut in soap and water is most suitable for maintenance and routine cleaning. Try to select a PH neutral type detergent.



1. It is best to wait at least 48 hours from dry time before doing a gentle hand wash
2. Rinse the area to be cleaned with clean water to loosen the debris.
3. Use liquid degreasing dish soap and create a mild soap and water solution to wash with.
4. Wash the entire area to be cleaned with a drenched sponge or similar soft scrubbing tool.
5. Wash very well, starting from the highest point of the area to the lowest.
6. Wash gently and keep scrubbing action to a soft and gentle scrubbing motion.
7. After washing gently with the degreasing cleaning solution, rinse the area thoroughly with clean water.
8. Allow cleaned area to dry naturally.



EXTERIOR COATED BANNER

### **Pressure washing an exterior coated graphic**

Pressure washing can be used to clean a coated graphic; however you must wait at least a full 7 days from dry time before pressure washing. Aggressive pressure washing and scrubbing may cause damage to the coated graphic. If very high pressure is used or the pressure washer is used in an aggressive manner it can force water up under the coated graphic or peel up the edges of the graphic. If water gets trapped underneath a mounted graphic it can lead to adhesion problems later.

**Here are some tips to help prevent damage while pressure washing:**

1. Use a pressure washer with a wide spray pattern
2. Use a pressure washer that is 1500 PSI or less
3. Hold the pressure washer at least 18 inches away from the graphic when spraying
4. Do not use hot water when pressure washing a coated graphic
5. Do not use the pressure washer to get at the edge of a coated graphic as this may peel it up and damage the graphic
6. Spray directly at the graphic and not at an angle

**Using Automated Car Wash**

Washing the wrapped car in automated car washes is acceptable only for maintaining the coated graphic clean. If the graphic is very dirty, the pressure wash or hand wash methods are necessary to properly clean the surface. Please note that it is very important that the car wash DOES NOT use any cleaners that contain Alcohol as this will attack the coating.

**How to remove difficult contaminants**

If the normal cleaning solutions and methods do not clean hard to remove contaminants very easily, the following methods may be utilized:

**To remove road tar, diesel, gasoline grime, wax, lip stick - cosmetics, or similar contaminants:**

- Use a non-abrasive rag or cloth and wash the grime with Landor Graffix Gone if available. Landor Graffix Gone works really well and will not damage the clear coat or plastics.
- If Landor Graffix Gone is not available then mineral spirits, VM&P Naphtha may be used moderately. Other solvents may damage the clear coat and graphic
- Immediately wash the area afterwards with liquid soap and water solution
- Rinse the area thoroughly and completely with clean water
- Allow the rinsed area to dry on its own

**Always test the cleaning method to be used in an area that is not highly noticeable to ensure the method removes the debris without damaging the coated graphic.**



## Colourjet Product Range

Landor Colourjet spray aerosol solvent based Liquid Lamination Protective Coatings are optimised for dye-based inks when the media/ink combination is water sensitive which could cause issues using ColourShield water based version.

Landor Colourjet is typically used only for water-based inks or when the surface is likely to fail with water based product (i.e. non water resistant inkjet media).

It works on most substrates, including canvas, vinyl, banners, fibreglass, wood, metal, plastic, and paper. It is sometimes used on eco and light solvent inks.

Landor Colourjet is available in two forms, Original Version and Landor Fine Art version for fine art.

### Landor Colourjet

Landor Colourjet is a universal solvent based liquid lamination protective coating available in aerosol, brush and roll, and spray versions in gloss and Satin.

### Landor Colourjet Fine Art

Landor Colourjet Fine Art Series is specially formulated to penetrate the canvas, making the media/ink combination more flexible and will not cause discolouration or colour shifts. It does not react with the ink jet receptive layer of most fine art substrates. It also ensures and prevents cracking of the canvas or the inks when stretched.

Landor Colourjet Fine Art is available in aerosol, brush and roll, and spray versions in gloss, Satin, and low gloss.



CANVAS

## Tips for using Landor Colourjet Aerosol sprays

Using an aerosol is easy to learn. **Some tips for achieving an even finish are as follows:**

### Preparation

1. When using any aerosol spray always use an appropriate face mask and ensure there is adequate ventilation in your working area. Protect your work surface you are going to spray on by covering it, there is likely to be some over spray at the sides of the image.
2. Before you use an aerosol can, shake it well. This is more critical with semi-gloss and low gloss versions.

### Application

3. Begin the spray off to the side of the surface to be coated.
4. Keep the spray can between 3-6 inches from the surface; the uniformity of the distance is important. Drier and warmer temperatures will require closer application. Sensitive ink jet receptive layers may require further distance on the first pass (6-9 inches, 15-22cms). This is called a 'tack coat' and will protect the surface because most of the solvents will have evaporated when the coating reaches the print. A second medium wet to wet coat can then be applied. Holding the can further away from the surface will yield a lower gloss.
5. Never turn your wrist! Turning your wrist will change the amount of fluid volume delivered to the surface. To ensure an even coating, always keep your wrist the same distance from the surface, and move your arm.
6. Continue the spray past the edge of the print you are coating.
7. To ensure a uniform coating, while off the print move the spray can about halfway down the coated area from the last pass and continue applying the liquid laminate in the reverse direction. This gives a 50% overlap (a 2 pass application).

**Throughout the coating process, make this a continuous motion. Try not to stop spraying, particularly when it's hot or dry.**

## Product features and application recommendations

| Product                                    | Properties                                                                                                                                                                                                                       | How to Apply                                                                                                                                    | Finish                                                                                                                               |
|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Landor<br>Colour shield                    | Thickest films build.<br>Suitable for vertical applications.<br>Recommended for Eco Solvent Inks                                                                                                                                 | Spray, foam applicator,<br>roller.                                                                                                              | Gloss<br>Satin<br>Matte                                                                                                              |
| Landor<br>Colour Shield<br>LL              | Lowest viscosity Coating Same resin solids.<br>Designed for machine application.<br>Recommended for Eco-Solvent inks.                                                                                                            | Spray, liquid laminators,<br>and hand application with<br>roller, pad, or foam<br>applicators and window<br>"Mops."                             | Gloss<br>Satin<br>Matte                                                                                                              |
| Landor<br>Colour Shield<br>Premium         | High quality, resilient, and elastic characteristics for use with most inks and substrates, for Vehicle Graphics (wraps), vehicle curtain and truck side with added chemical resistant for higher traffic areas or Public spaces | Spray, liquid laminators,<br>and hand application with<br>roller, pad, or foam<br>applicators and window<br>"Mops."                             | Gloss<br>Satin<br>Matte                                                                                                              |
| Landor<br>Colour shield<br>Truckside Gloss | Specifically used to protect Truckside Curtains, providing advanced protection abrasion, water, chemical Resistance                                                                                                              | Spray, Liquid Laminator,<br>Rollers, Mop, Brush, Paint<br>Pads, or foam applicators                                                             | Gloss                                                                                                                                |
| Landor<br>Colour shield<br>Satin           | Light Satin applications not requiring dead flat finish found in matte version. Better abrasion resistance. Suitable for many wallpaper applications.                                                                            | Use all hand application,<br>spray and liquid<br>laminators.                                                                                    | Satin                                                                                                                                |
| Landor<br>Wallpaper Matt                   | Matte applications with a reduced semi matte finish but maintaining a good anti abrasion resistance. Suitable for many wallpaper applications.                                                                                   | Use all hand application,<br>spray and liquid<br>laminators.                                                                                    | Matte                                                                                                                                |
| Landor<br>Canvas Shield                    | Water resistant canvas applications (highly flexible). Also suitable for some micro porous ink jet receptive substrates to help reduce or eliminate pinholes.                                                                    | Use all techniques,<br>including most liquid<br>laminators.<br>Best applied by spray or<br>liquid laminator.                                    | Gloss<br>Satin<br>Matte                                                                                                              |
| Landor<br>Colour Shield<br>Anti-Graffiti   | Highly flexible, chemical and ultraviolet resistant. Optional Two component Mix, water based liquid laminate easily cleaned with solvents or Landor's non. petrochemical citrus based anti-graffiti cleaner.                     | Use all techniques or<br>roller, spray and liquid<br>laminators. When mixed<br>with hardener no more<br>than 3ml per 1 litre should<br>be used. | Gloss may be<br>used without cross<br>linking agent and<br>will exhibit<br>excellent durability<br>with lower graffiti<br>resistance |

|                    |                                                                                                                                                                                                            |                                         |                        |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|------------------------|
| Colourjet          | Solvent based liquid Lamination protective coating optimised for dye-based inks when the media/ink combination is water sensitive which could cause issues using Landor Colour Shield water based version. | Aerosol, brush and roll, spray versions | Gloss, Satin           |
| Colourjet Fine Art | Formulated to penetrate canvas, making the media/ink combination more flexible and will not cause discolouration or colour shifts.                                                                         | Aerosol, brush and roll, spray versions | Gloss<br>Satin<br>Matt |

## Complimentary Products

### Landor Liquid Laminators

Landor's Liquid lamination Protective Coatings are ideal for large volume customers using liquid laminators such as the Landor range of Liquid Laminators.

The Landor Digital Coater is a roll to roll liquid laminator. They are easy to operate and they apply a smooth even layer of Landor Colour Shield protective coatings on a wide variety of substrates. These machines are available in 1.6metre (60") and 3.3metre models. Other Sizes available on special order.

1. Liquid Laminators
2. Manual liquid coating applicator
3. Automated liquid laminator curing systems



A full range of laminate machinery is available at:  
[www.liquid-lamination.co.uk/products/machines](http://www.liquid-lamination.co.uk/products/machines)

### Roller trays, Hand Rollers & Application kits



## Colourjet Retarder

In hot, humid and dry climates, it may be necessary to add a retarder to maintain the proper viscosity levels (flow characteristic) for brush and roll and especially spray applications. Typically, retarders are added as needed with a recommended starting point of 1-3% by volume.

A full range of complimentary products are available at: [www.liquid-lamination.co.uk/complementary-products](http://www.liquid-lamination.co.uk/complementary-products)

## Application Fluids

(For vinyl/windows applications & adhesive/graffiti removal)



**ActionTac** - Ready to use vinyl application fluid for applying pressure sensitive vinyl and decals to most surfaces

- A great prep and cleaning agent
- One product for all grades of vinyl
- Will not damage transfer tape or cause separation
- Less clean-up residue
- No harmful odours

**Splash** - Concentrated Splash is the most cost effective application fluid on the market

- Wets the surface allowing you to slide the graphics into place
- Great when working with large graphics
- Promotes faster adhesion
- 60cc. makes approximately one litre of vinyl application solution

**Window Juice** – A window application fluid designed specifically to allow users more time for easy repositioning

- For use with pressure sensitive vinyl graphics and decals.
- Eliminates bubbles and wrinkles, providing a crease free result.

- Works in extreme weather conditions cold or hot, dry or warm
- Fast, simple, clean application
- User-friendly, safe, and easy to use

#### **Grafix Gone - Softens adhesive residue within 90 seconds for easy removal**

- Great for removing old paper sheeting from plastics
- Will not damage most plastics
- Will not harm latex paint
- No extra clean-up after removing adhesive residue

We also supply citrus based graffiti removers. Go to [www.liquid-lamination.co.uk/join-tech-club/](http://www.liquid-lamination.co.uk/join-tech-club/) to access the 'How To' guide for these products.

### **Frequently Asked Questions (FAQ's)**

#### **Landor Liquid Lamination Vs. Film Lamination**

Film Lamination adheres to the surface of printed media and comes in two main types; Pressure Sensitive laminates need pressure to stick, or Heat Sensitive laminates only sticks when heat is applied. In some cases the added rigidity of film lamination does not meet the criteria for the applications, for example digital wallpaper, PVC banners, canvas, truck curtains and vehicle graphics.

The natural bond of Liquid Protective Coatings works without the use of pressure/heat sensitive adhesives, which can have varying adhesion performance, plus it has greater flexibility when applied onto most surfaces, making liquid protective coatings more suitable than conventional lamination film in the majority of applications. Film lamination is only more suitable when extra rigidity is needed, for example with pop up displays. However if adhesive bond, de-lamination or compatibility of laminates to the printed substrate is an issue, then liquid protective coatings are often the preferred option, or the only solution to protect the printed image.

#### **I am printing with HP Latex Inks and want to make a vehicle wrap. What is the best liquid laminate?**

Our Gloss Lite Liquid Coating is designed for vehicle wrapping and works exceptionally well with HP Latex inks. The Gloss Lite can be used for a multitude of other applications with the HP Latex inks, assuring adhesion and protection.

#### **I normally use film laminates but I have a really big job, is there a size restriction with Liquid Coating?**

The only size restriction you may have is with a Liquid Protective Coating Machine. We have customers creating super wide banners often 7m x 5m with Liquid Coatings. They generally use our Anti-Graffiti Liquid Coating for added protection.

#### **Is there a Liquid Protective Coating that I can use on my UV curable inks?**

The Landor Colour Shield Gloss is a perfect liquid coating for UV ink prints (it's special UV Adhesion properties provide added adhesive strength). It works well as a liquid protective coating on its own, it can also be used as a pre-coat. For example: if you want to provide anti-graffiti protection for UV printed work, you apply it as a 'pre-coat' prior to applying the anti-graffiti coating for added protection and peace of mind that the bond will be as you want it.



**Should I apply a liquid protective coating to canvas before or after stretching around a frame?**

We would recommend liquid protective coating before it is put on a stretcher frame with our Canvas liquid coatings. It is not practical after stretching

**I am about to use your Landor Canvas Shield in an HVLP Spray system.**

**Do you have any recommendations on the pressure settings and what ratio do I need when mixing the liquid coating with water?**

For HVLP guns the pressure we recommend is 30 PSI at the gun. The ideal tip size should be 1.3 mm but you can use up to 1.6 mm.

**What is the best way to clean liquid coatings on truck curtains?**

The best practice does depend on the application, for example a canvas would be treated differently to a truck curtain side. For more delicate applications like canvas, photographic and other inkjet prints, we would recommend using a soft cloth or sponge dipped in a solution of warm water and mild detergent. Truck curtain sides should be frequently cleaned otherwise dirt will build up. There is a temptation to use abrasive scrubbing or solutions containing alcohol to remove the dirt which could compromise the liquid protective coating; this should be avoided as it can create a porous surface allowing dirt to build up easier afterwards.

**Are Landor Liquid Laminates good for welding?**

Yes, like all of our protective coatings, Landor Liquid Laminates will withstand welding. They are engineered and developed for this application

**Can you transport Landor Colour Shield Liquid Coatings when it is cold outside or is it sensitive to frosty conditions?**

Although it is not ideal, the coatings can be transported in cold conditions but it is essential that they are not allowed to freeze as they are water based products. The liquid coatings need to be stored in warm conditions (over 18 degree centigrade) and stirred well before use.

**I use Landor Colour Shield Satin and want to put coated stickers on an urn containing boiling water up to 100 degrees, would that be possible?**

The dried coating will not react to that temperature. We would expect the adhesive would have a reaction before the dried film.

**How many ml is there in a standard Colourjet aerosol can?**

There are 463ml in each tin. In regards to coverage, consideration needs to be made for coating twice and some loss to the atmosphere. A good estimation of coverage is 1-2 m<sup>2</sup> per spray tin. It is also recommended to do one low tac coat followed by another full spray coat. (Ideally 6-8" away from surface)

**If I want detailed technical information about a Liquid Protective Coating are there material safety datasheets available?**

We have a concise library of MSDS (Material Safety Datasheets) available for all Customers and users. Please send an email to [sales@liquid-lamination.co.uk](mailto:sales@liquid-lamination.co.uk) with your request and we will reply straight away.

**How do I keep up to date with Liquid Protective Coatings?**

For regular updates on product developments and application advice you can sign up to the **Landor Liquid Lamination Club** at [www.liquid-lamination.co.uk/join-tech-club/](http://www.liquid-lamination.co.uk/join-tech-club/).

Alternatively, follow us on **Twitter**  @LiquidLaminate or @LandorUK

OR 'like' us on our **Facebook** pages  LandorLiquidLamination or LandorUK

## Disclaimer

The information and recommendations in this handbook correspond with our current knowledge and is presented to inform you, without obligation, about our products and their use. The advice does not release you from the necessity to ensure, by your own tests, the product and surface suitability. These tests are essential as we do not have any influence on the conditions where they are intended to be used and on other possible influences which may occur during use or application.

We are always happy to help you with your tests by providing you advice and information on our range of coatings and their recommended uses, plus samples of the coatings you may need. Just call us on 01252 624411 or e mail us on [sales@landoruk.com](mailto:sales@landoruk.com) with the details of what you need.

**Note: We reserve the right to make any changes which may be useful for product improvement.**



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