



HP Scitex FB500 Printer  
HP Scitex FB700 Printer  
Rigid Media Guide

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# Introduction

This purpose of this guide is to provide operators of the HP Scitex FB500 and FB700 printers with recommendations for printing on various types of rigid media. These recommendations provide the best operating instructions under most circumstances, yet due to the variability of print media, there will be situations or scenarios that may require modification of these procedures.

HP Scitex FB500 and FB700 printers work better with some media than with others. Factors such as the media's flatness, texture or smoothness, reaction to heat, surface tension and chemical composition can affect the image quality, the ability of the ink to adhere adequately and the overall usability for a particular application. Always test new media to determine if it meets your requirements before purchasing a large quantity.

There are many different types of print media available throughout the world, although brands, selection and quality will vary by region. The information in this document covers a broad range of typical media types that have been tested with the HP Scitex FB500 and FB700 printers, but at the same time this is not a complete list of all compatible media.

## Print Mode Considerations

When selecting a print mode for a specific application it is important to consider; the level of throughput (speed) desired to complete the job, the viewing distance and quality expectation for the application, and the printing characteristics of the media selected for the job. If a certain print mode selected does not generate the desired result, it may be necessary to select a different print mode.

Viewing distance / Application	Print mode	FB500	FB700
> 30m / 100ft	Billboard	n/a	80.0 m <sup>2</sup> /h 861 ft <sup>2</sup> /h
5-30m / 16-100ft	Express	37.0 m <sup>2</sup> /h 398 ft <sup>2</sup> /h	42.2 m <sup>2</sup> /h 455 ft <sup>2</sup> /h
3-5m / 10-16ft	Outdoor Signage	29.6 m <sup>2</sup> /h 319 ft <sup>2</sup> /h	34.0 m <sup>2</sup> /h 366 ft <sup>2</sup> /h
2-3m / 6-10ft	Outdoor Signage Plus <sup>1</sup>	21.3 m <sup>2</sup> /h 229 ft <sup>2</sup> /h	24.3 m <sup>2</sup> /h 261 ft <sup>2</sup> /h
1-2m / 3-6ft	Indoor Signage <sup>1</sup>	16.4 m <sup>2</sup> /h 177 ft <sup>2</sup> /h	18.8 m <sup>2</sup> /h 202 ft <sup>2</sup> /h
	Indoor Signage Plus <sup>1</sup>	11.1 m <sup>2</sup> /h 120 ft <sup>2</sup> /h	12.8 m <sup>2</sup> /h 138 ft <sup>2</sup> /h
<1m / 3ft	Photo <sup>1</sup>	8.6 m <sup>2</sup> /h 93 ft <sup>2</sup> /h	9.9 m <sup>2</sup> /h 107 ft <sup>2</sup> /h
	Photo Plus	4.4 m <sup>2</sup> /h 47 ft <sup>2</sup> /h	5.0 m <sup>2</sup> /h 54 ft <sup>2</sup> /h
	Max DPI - Saturated <sup>1</sup>	4.4 m <sup>2</sup> /h 47 ft <sup>2</sup> /h	5.0 m <sup>2</sup> /h 54 ft <sup>2</sup> /h

1) These print modes are also available for printing with white ink when the printer is equipped with the optional HP Scitex FB500/FB700 White Ink Upgrade Kit. Print speeds will be slightly less than half that shown in the table above when printing a white ink overflood or underflood.

**Billboard print mode** (FB700 only) – For the sake of this guide, the primary purpose of Billboard print mode is for creating drafts or proof prints. In certain instances it may be used to produce sellable output as long as the buyer and seller understand that the viewable distance for output generated in Billboard Print Mode is greater than 100 feet (30 m). Billboard Print Mode does not utilize the printer's jet mapping feature, therefore, any missing or misfiring jets reported or detected using the manual or automatic calibrations will not be substituted with known working jets.

**Print resolution** – The print modes, Billboard, Express, Outdoor Signage and Outdoor Signage Plus, are printed at a resolution of 600x300-dpi. A tradeoff of printing at this resolution is a slightly reduced color gamut when compared with 600x600-dpi print modes. Indoor Signage, Indoor Signage Plus, Photo and Photo Plus print modes use a resolution of 600x600-dpi. The Max DPI print mode prints at 1200x600-dpi.

**Gloss / Matte adjustment** – The printer is able to adjust how the ink cures to cause it to have a slightly glossy or matte appearance. For matte, both the leading and trailing UV lamps are open during travel of the printhead carriage assembly in either direction. The trailing lamp will begin to cure the ink droplets immediately after being jetted onto the media. For a glossier appearance, the trailing lamp is shuttered during travel in either direction, thereby allowing the ink droplets to spread out slightly before the leading lamp on the following pass begins the curing process.

By default, the print modes; Billboard, Express, Outdoor Signage, Outdoor Signage Plus and Indoor Signage use the matte setting (trailing lamp unshuttered), and the print modes; Indoor Signage Plus, Photo, Photo Plus and Max DPI use the gloss setting (trailing lamp shuttered). Two exceptions to this are when the printer is configured to use Foamed PVC media or when printing with white ink. In either of these cases, all print modes use the matte setting. See Appendix B for more detail.

It is possible to control the trailing lamp outside the default modes mentioned above by creating a custom media type in Media Wizard. Note, however, due to the increased curing energy needed, it is recommended to never shutter the trailing lamp when printing with white ink.

Due to the variation in dot gain from matte to gloss, it may be beneficial to use a matching color profile on the RIP. Onyx software provides an extensive set of gloss and matte profiles. For other RIP software, it may be desirable to create a custom profile.

## Media Wizard Settings

HP Scitex FB500 and FB700 printers have a pre-defined set of common media types stored in the Media Wizard along with the printing parameters tested and determined to be work best in most applications. A list of the pre-defined media and their parameters can be found in Appendix A of this document.

While the printing parameters for these pre-defined media types cannot be changed, it is possible to create a copy, rename it and change the parameters using the printer's Media Wizard. Refer to the HP Scitex FB500/FB700 User Guide for details.

When creating a new media type, choose a media type that best matches the characteristics and change the desired printing parameters. Also, to eliminate Media Mismatch errors, consider creating a copy of the media profile in the RIP and renaming it to match the name of the new custom media type.

## Non-white media

The printer uses a camera on the printhead carriage assembly to detect the placement and size of the media. This camera works best on white or near-white media that provides a strong contrast between it and the transport belt. When using clear or colored media, select or create a media type from the Media Wizard that has the attribute, Detectable by Printer, set to off. When loading the media, it will be necessary to enter the location of the left (user side) and right (service side) edges of the media according to the Media Measurement Option selection.

# Media Measurement Options

The printer has a camera onboard the carriage that can automatically measure the media. You can choose various levels of precision for finding right, left and leading edges of the media. This option is set on the printer's control panel under "Printing -> Options -> Measure Media".

First, the printer prompts you to select a measurement frequency (trade-off between precision and speed):

- Measure only on first load — measure only once, after you configure the media; best for fast throughput when precise image placement is not required or when using the media alignment pins
- Measure on all loads — best for precise image placement, such as for N-UP and edge-to-edge printing
- Don't measure media — best for fast throughput when precise image placement is not required and there are very wide margins around the image

After you select one of these options, the printer prompts you to select a measurement type:

- Maximal — measures the width of the media in 5 places, and finds the right and left front edges to estimate skew and detect non-square sheets. This adds a few additional seconds to the media load process but facilitates the most accurate media placement.
- Standard — measures the width of the media once, and finds the right and left front edges to estimate skew. This is the default setting and is recommended for most applications.
- One Edge — measures the user- and service-end edges on the first sheet, user-end edge only on subsequent sheets, and the front right edge (no skew detection). For single-sheet jobs only, not available for multi-sheet N-UP. Works best on jobs with wider margins.
- Minimal — measures the width of the media once, and finds the front right edge only. This method is fastest but does not provide any feedback regarding possible media skew.

Choose Minimal for fastest throughput, Maximal for greatest precision and skew detection when printing edge-to-edge.

When configuring a media that is transparent, reflective or colored, use the appropriate media type with "Detectable by Printer" set to "No". This bypasses the automatic media detection and measurement and the printer will prompt you to enter to coordinates of the right and left edges of the media.

## Edge-to-Edge Printing

Edge-to-Edge printing is automatically enabled when the left, right top and bottom margins are set to zero and a job is sent to print that is the same width and height as the media loaded.

The procedures for loading media for Edge-to-Edge printing are the same for any other media, but the additional considerations should be made:

- "Centered" print position should be used. The Print Position is set on the printer's control panel under "Printing -> Options -> Print Position and Eject Settings".
- The "Maximal" media measurement method is recommended, or "Standard" may be used if the media is square.

With the Standard or Maximal media measurement method, the printer will detect if the media is loaded askew and give the option to reload or use as is.

## Overprinting

Ordinarily (without overprinting) the printer will reject any job that exceeds the printable area of the media. Because some media sheets are not precisely square, overprinting may be necessary to achieve a full-bleed edge-to-edge print.

Overprinting is enabled by setting a negative value for the left and/or top margin.

The printer does not alter the job; i.e., enlarge the job or add extra pixels to accomplish overprinting. The job must be resized prior to sending it through the RIP. For best results:

- Size the job slightly larger than the media dimensions. Depending on the squareness of the media, add approximately 0.25 inch (6 mm) to width and length.
- Send (spool) the job to the printer's hard drive using the Save Only feature.
- Set negative left and top margins: -0.125 inch (-3 mm).
- Set positive right and bottom margins: 0.125 inch (3 mm).
- Print the stored job.
- To prevent a build-up of ink on the belt, clean immediately with IPA. If ink is allowed to continue to cure, it will be necessary to soak the area with IPA before it can be wiped off. Do not scrape ink off of the belt.

## Two-Sided Printing

When printing from jobs stored in the printer you have the option of selecting 2-Sided Printing. Doing so, the printer will prompt to select the stored job for first side and then the second side as they can be different. The procedures for loading media for two-sided printing are the same for any other media, but like edge-to-edge printing, there are these additional considerations:

- “Centered” print position centers both side 1 and side 2 images left to right.
- The “Maximal” media measurement method is recommended, or “Standard” may be used if the media is square.
- The ink on side 1 is not fully cured. Use caution when reloading it to print side 2 to prevent scratching ink from side 1.

## Preparing Image for Two-Sided Printing

In most situations, such as signage, the image for the second side will be rotated 180°. Using all of the recommended practices described previously in this document, the two sides will print with alignment suitable to the application.

For some applications, such as images that will be die-cut to a custom shape, the image should be flipped in the X-axis (side to side) and the media sheet also flipped in the X-axis. This method will achieve the greatest accuracy of alignment on the leading edge of the media.

## Multiple Sheet Printing

Multiple-sheet N-UP allows you to print more than one copy of a single job on multiple sheets across the belt, and multiple rows of sheets, until the job is completed.

To enable, select N-UP when loading media and have the number of sheets you intend to print across the width of the printer in position to be loaded. Sheets must not be more than 3 inches (7.6 cm) apart from each other. Use the alignment pins if you will be printing multiple rows.



**Figure 1: Multiple Sheet Printing**

When selecting a job to print, set the quantity to a number equal to or greater than the number of sheets you loaded. The printer will prompt you to load more sheets until the number of copies you specified has been printed.

You can print any number of copies in a multi-sheet N-UP job, even if the total number does not divide evenly into the number of sheets per row. Only the last row may have a different number of sheets.

For example: in a twenty-sheet job where you fit three sheets across, the printer will print six rows of three sheets, plus one row of two sheets. Load the last row with the sheets from the user end toward the service end.

## Rigid Media Guidelines

Never use sheets of media that exceeds the maximum published weight specification of 150 lb (68 kg).

For materials between 50-150 lbs. (22-68 kg), choose **Heavy** when selecting media weight in the Media Wizard.

To reduce the risk of damage due to a head strike, do not print on media longer than the tables are designed to support. Optional Extension Tables are available to support longer media.

Maximum media length	FB500	FB700
Standard tables	48 inches (122 cm)	48 inches (122 cm)
Optional extension tables	120" (305 cm)	80 inches (203 cm)
Two sets of extension tables	n/a	120" (305 cm)

Media tables should be leveled such that the tops of the table rollers are level and coplanar to the flat surface of the media belt.

Ensure that the tables are latched securely to the printer to establish a proper grounding path for any residual static build up on the media.

Print speed may need to be adjusted when using certain materials that deform when subjected to sustained heat (e.g. polystyrene-face foam board). In these cases it may require some combination of a higher vacuum setting, faster print mode, higher than standard head height and the addition of a printing delay (Printer/Options/Print Delay) to achieve the best results.

## Rigid Media Properties

- Store media flat, in a clean environment with the same or similar temperature and humidity as the printer.
- For best results, individual sheets of media should be flat. Curves in either axis of the media (left to right, or front to back) can lead to head strikes of the carriage on the media. Accuracy of dot placement or overall feed accuracy can also be affected by non-flat media.
- For best results, media should have parallel opposite edges with 90° corners. Media that is not square with itself will require extra attention when loading.
- Both sides of the material should be clean and dry.
- Some substrates may have a surface coating. Certain coatings may cause ink to pool and cure unevenly, yielding poor image quality. Be sure to test coated materials for compatibility before purchasing significant quantities.
- Use caution to avoid substrates with bent or damaged edges on the material, especially metal composite and corrugated materials. In addition to the risk of damage due to a head strike, they may create drag or vacuum loss that results in media feed errors or skew.
- Warped or bowed media that the vacuum belt system is unable to hold flat against the belt will require the media hold down rollers to be employed in conjunction with Warped Media Mode. Although this reduces the effective print area of the sheet of media, it reduces the risk of damage due to a head strike

## Static Electricity

Static electricity is often a problem when working with synthetic materials. These materials are often nonconductive, so static charges cannot dissipate on their own. Besides minor personal discomfort from static shocks, static attracts foreign particles to the media surface that prevent ink from adhering to the media surface. Static can also attract ink droplets to areas of the media surface that were supposed to remain unprinted. Low humidity levels in the printer and media storage environment can exacerbate the issue.

- A number of active and passive methods can be employed to minimize static:
- Maintain a relative humidity level of 40-60% in both the printer and media storage areas.
- Clean the static elimination ionizer bar every 3 months according to the instructions in the HP Scitex FB500/FB700 User Guide.
- Drape a conductive material such as copper tinsel over the media stacks and attach it to a grounding point. This will help discharge the static from each sheet as it is removed from the stack.
- Wipe down the media surface prior to printing with isopropyl alcohol (IPA) that has a concentration of 90% or greater. This will remove any foreign particles that were attracted to the media by static.
- For extreme static problems, careful use of an antistatic spray may be warranted. Some examples are K2r Static Stopper and Alberto-Culver Static Guard. Lightly spray on, but do not allow it to pool on the media. Note that the ink-adhesion properties of some media may be negatively affected by the spray, so use the minimum amount necessary to achieve results. Adhesion decreases approximately 10% and typically occurs on media that already has poor adhesion properties without the spray.

# Reflective Media

When printing on reflective media, such as polished metal or mirror, additional preparation and maintenance procedures are necessary to minimize UV light being reflected back to the printhead nozzles where it could cure ink, plugging the nozzles.

- Set the Auto Purge & Wipe Interval to Between Each Job. (Ink -> Maintenance -> Auto Purge & Wipe Interval)
- On flat, well behaved materials such as glass mirror, lower the printhead height to its minimum 0.065 inch (1.6 mm) value. (Printing -> Options -> Head Height off Media) Remember to change this back to the nominal value of 0.085 inch (2.2 mm) when done printing on reflective media.
- Mask off any areas of the media surface that will not be imaged.
- Perform a manual cleaning of the printhead orifice plates at the end of each day that reflective materials are being printed.

# Rigid Media Details

## Acrylic Sheet

Brand name example: Plexiglas®

### Preparation

- Peel the protective film off one side, leaving the other side protected until finishing or installation of the finished graphic.
- Wipe the printing surface with an anti-static tack cloth to remove static charge and any dust or debris.
- If an anti-static tack cloth is not available, 90% or higher IPA on a lint-free cloth can be used to remove dust or debris. Allow the sheet to sit out on the input table about 5 minutes to allow the IPA to evaporate and the static to dissipate.
- Use clean, cotton gloves to avoid fingerprints.

### Recommended print modes

- Photo or Photo Plus for applications where it will be viewed from the printed surface. For increased saturation, use Max DPI – Saturated.
- Indoor Signage Plus or higher quality for applications where it will be viewed through the media and either a white ink overflow is used or white backer is applied over the printed surface. Flip the image in the RIP software for view-through applications.
- Max DPI – Backlit, using either Spot or Overflow modes, for backlit applications.

### Printing

- These materials are heavy in larger sizes. Do not exceed 150 lb (68 kg). Use the Heavy media setting for sheets over 50 lb (22 kg).
- Depending on end-use application, ink adhesion may be an issue. In addition, white ink overflow applications may develop small localized loss of adhesion. Use of an acrylic primer can improve overall ink adhesion.
- Select **Clear Sheet** when configuring and loading this media.
- Use a Clear Sheet media profile from the RIP software.

### Output handling

- Use caution when loading or lifting sheets off the table as the media and ink can be easily scratched.
- Use clean, cotton gloves to avoid fingerprints.

# Aluminum Composite

Brand name examples: Alumacore™, Alupalite®, Dibond®, Graphic-AL™, Omega-Bond™

## Preparation

- Peel the protective film off one side, leaving the other side protected until finishing or installation of the finished graphic.
- Wipe the printing surface with an anti-static tack cloth to remove static charge and any dust or debris.
- If an anti-static tack cloth is not available, 90% or higher IPA on a lint-free cloth can be used to remove dust or debris. Allow the sheet to sit out on the input table about 5 minutes to allow the IPA to evaporate and the static to dissipate.
- Ensure the media is flat and there are no damaged corners, edges or ends.

## Recommended print modes

- Indoor Signage Plus, Photo or Photo Plus print modes. For increased saturation, use Max DPI – Saturated.

## Printing

- Select **Aluminum Composite** when configuring and loading this media.
- Media placement detection is disabled when using this media type. When loading the media, it is necessary to enter the location of the left (user side) and right (service side) edges of the media according to the Media Measurement Option selection.
- If the edges are bent, they should be flattened before imaging. A head height higher than the standard 0.085 inches (2.2 mm) may be necessary to avoid damaged or bowed edges that will interfere with the path of the carriage.
- Use an Aluminum Composite media profile from the RIP software.
- For increased saturation on non-white or brushed aluminum surfaces, use the RIP software's Saturated Rendering Intent option or select a Max DPI print mode.

## Output handling

- Use caution when loading or lifting sheets off the table as the media and ink can be easily scratched.

## Known incompatibility

- Avoid using aluminum composite materials, such as Alucobond®, that have a polyvinylidene fluoride (PVDF) surface coating. PVDF coated materials have reduced ink adhesion and may not work for some applications.

# Compressed Cardboard / Cardstock

Also known as: cover stock, paperboard, pasteboard, tag board

## Preparation

- Store media flat, in a clean environment with the same or similar temperature and humidity as the printer. Changes in temperature or humidity will cause the material to warp.
- Some coated sheets may interact with the ink yielding poor image quality. Test coated materials for compatibility before purchasing significant quantities.
- Clean with a lint-free cloth to remove any dust and debris.
- Use gloves when handling the media to avoid transferring fingerprints and oils to the print surface.
- The material can bend and crease easily. Watch for edges that may strike the carriage.

## Recommended print modes

- Depending on application, ink coverage and image content, all print modes may print acceptably.

## Printing

- Select **Card Stock** when configuring and loading this media.
- Some colored media may not be able to be detected by the onboard camera. If so, created a copy of the Card Stock media using the Media Wizard and change the Detectable by Printer option to No.
- Use the lowest possible UV lamp power setting to cure the ink.
- Use a Card Stock media profile from the RIP software.
- Some materials are more porous and absorb the ink giving a washed out appearance. Use the RIP software's Saturated Rendering Intent option to increase saturation.

## Output handling

- Use gloves to avoid transferring fingerprints and oils to the print surface.
- Use caution when lifting it off the table to avoid creases.

# Corrugated Cardboard

Also known as: corrugated fiberboard, box board

## Preparation

- Store media flat, in a clean environment with the same or similar temperature and humidity as the printer. Changes in temperature or humidity will cause the material to warp.
- Clean with a lint-free cloth to remove any dust and debris.
- The material can bend and crease easily. Watch for edges that may strike the carriage.

## Recommended print modes

- Depending on application, ink coverage and image content, all print modes may print acceptably. Faster print modes are less susceptible to bowing of the media due to heat.

## Printing

- Select **Corrugated Cardboard** when configuring and loading this media.
- Some colored media may not be able to be detected by the onboard camera. If so, create a copy of the Card Stock media using the Media Wizard and change the Detectable by Printer option to No.
- Use the Warped Media option when loading non-flat media. Using this option reduces the available print area.
- Use the lowest possible UV lamp power setting to cure the ink.
- Use a Corrugated Cardboard media profile from the RIP software.
- Some materials are more porous and absorb the ink giving a washed out appearance. Use the RIP software's Saturated Rendering Intent option to increase saturation.

## Output handling

- Use caution when lifting it off the table to avoid creases.

# Corrugated Plastic

Also known as: corrugated or fluted polypropylene

Brand name examples: Corflute<sup>®</sup>, Coroplast<sup>®</sup>, Correx<sup>®</sup>

## Preparation

- The quality of corrugated polypropylene can vary greatly. A corona treatment is generally applied when manufactured to increase the surface tension for better ink adhesion. This corona treatment will diminish over time. Material that has been shipped long distances or stored for an extended period of time will have more problems with ink adhesion.
- This material tends to hold static charge - avoid sliding the media from the stack or carrying across carpeted surfaces.
- Review and follow the steps in the Static Electricity chapter of this guide.
- Ensure that media tables are attached and secured to the printer to provide a grounding path for static loaded material.
- Media is often supplied un-square, so trimming it to square may be necessary for some applications, such as edge to edge printing. Make sure all edges are cut clean and are free of burrs and/or excess material.
- Wipe the printing surface with an anti-static tack cloth to remove static charge and any dust or debris.
- If an anti-static tack cloth is not available, 90% or higher IPA on a lint-free cloth can be used to remove dust or debris. Allow the sheet to sit out on the input table about 5 minutes to allow the IPA to evaporate and the static to dissipate.

## Recommended print modes

- Depending on application, ink coverage and image content, all print modes may print acceptably.
- Faster print speeds can be obtained without noticeable banding by feeding the media with the flutes in parallel with the printhead carriage motion.

## Printing

- Select **Corrugated Plastic** when configuring and loading this media.
- Non-white media may not be able to be detected by the onboard camera. If so, create a copy of the Corrugated Plastic media using the Media Wizard and change the Detectable by Printer option to No.
- Use the lowest possible UV lamp power setting to cure the ink.
- Media is heat-sensitive. It may require a higher vacuum setting, faster print modes, higher than standard head height, and printing delays in some combination to achieve best output.
- Use a Corrugated Plastic media profile from the RIP software.

## Output handling

- Ink adhesion improves over 24 hours. Sometimes it is beneficial to wait 24 hours before cutting full-bleed prints.

# Foam Board

Brand names examples: Fome-Cor<sup>®</sup>, Kapa<sup>®</sup>, MightyCore<sup>®</sup>

## Preparation

- Store media flat, in a clean environment with the same or similar temperature and humidity as the printer. Changes in temperature or humidity will cause the material to warp.
- Clean with a lint-free cloth to remove any dust and debris.
- The material is susceptible to dents and damages easily. Watch for corners and edges that may strike the carriage.

## Recommended print modes

- Depending on application, ink coverage and image content, all print modes may print acceptably.

## Printing

- Select **Foam Board** when configuring and loading this media.
- Non-white media may not be able to be detected by the onboard camera. If so, create a copy of the Foam Board media using the Media Wizard and change the Detectable by Printer option to No.
- Use the lowest possible UV lamp power setting to cure the ink.
- Media is heat-sensitive. It may require a higher vacuum setting, faster print modes, higher than standard head height, and printing delays in some combination to achieve best output.
- Use a Foam Board media profile from the RIP software.

## Output handling

- You can usually recover from heat warp by laying this media flat and allowing it to cool.
- Always use a very sharp blade when trimming.
- Substrate is susceptible to dents and it damages more easily than most media types.

## Known incompatibility

- Kapa<sup>®</sup> Color is a series of foam boards with a colored plastic-coated cellucarton covering layer that is known to interact with the ink and have poor image quality.

# Foam PVC

Also known as: closed-cell PVC foamboard

Brand names examples: Celtec<sup>®</sup>, Forex<sup>®</sup>, Komatex<sup>®</sup>, Sintra<sup>®</sup>

## Preparation

- If the media has a protective film attached, peel the protective film off of one side, leaving the other side protected until finishing or installation of the finished graphic.
- If one side is smoother than the other, print on the rougher side for best adhesion.
- Wipe the printing surface with an anti-static tack cloth to remove static charge and any dust or debris.
- If an anti-static tack cloth is not available, 90% or higher IPA on a lint-free cloth can be used to remove dust or debris. Allow the sheet to sit out on the input table about 5 minutes to allow the IPA to evaporate and the static to dissipate.

## Recommended print modes

- Depending on application, ink coverage and image content, all print modes may print acceptably.

## Printing

- Select **Foam PVC** when configuring and loading this media.
- Use a Foam PVC media profile from the RIP software.

## Output handling

- No special handling required.
- If ink adhesion is inadequate, print in a higher quality mode and/or wait 24 hours before finishing. Always use a sharp blade when cutting.

# Glass

## Considerations

- The smooth, non-porous surface of glass does not provide a good interface for ink to adhere making it susceptible to scratches and scraping. Special precautions are necessary in the handling and display of the printed piece to protect it from abrasion.
- Adhesion can be improved with the use of a pre-treatment or primer, such as HP PT40 Specialty Glass Scitex Primer – part number CD571A.

## Preparation

- Use a lint-free cloth with a glass cleaner to remove dust or debris. Do not use a detergent.
- Use clean, cotton gloves to avoid fingerprints.
- If a pre-treatment primer is used, apply it according to the instructions and allow it to dry before printing.

## Recommended print modes

- Photo or Photo Plus modes for applications where it will be viewed from the printed surface. Use Max DPI – Saturated if higher ink density is needed.
- Indoor Signage Plus or higher quality for applications where it will be viewed through the glass and either a white ink overflow is used or white backer is applied over the printed surface. Flip the image in the RIP software prior to printing for view-through applications.
- Max DPI – Backlit, using either Spot or Overflow modes, for backlit applications.

## Printing

- Select **Clear Sheet** when configuring and loading this media.
- Media placement detection is disabled when using this media type. When loading the media, it is necessary to enter the location of the left (user side) and right (service side) edges of the media according to the Media Measurement Option selection.
- Use a Clear Sheet media profile from the RIP software.
- For applications that require fine detail, use the Fine Text option (available in firmware version 2.01 and later) and/or lower the printhead height from its nominal 0.085 inch (2.2 mm) setting.

## Output handling

- Use clean, cotton gloves to avoid fingerprints.
- Take care when loading or lifting sheets off the table as media and ink can be easily scratched.
- Depending on the end use application, a post treatment may be necessary to minimize risk of surface damage.

# Plywood

Examples: Raw, primed or painted plywood, MDO, MDF

## Preparation

- Store media flat, in a clean environment with the same or similar temperature and humidity as the printer. Changes in temperature or humidity will cause the material to warp.
- Media is often supplied un-square, so trimming it to square may be necessary for some applications, such as edge to edge printing. Make sure all edges are cut clean and are free of burrs and/or excess material.
- Use compressed air to blow dust and debris from printing surface.

## Recommended print modes

- Depending on application, ink coverage, image content and wood surface, all print modes may print acceptably.

## Printing

- Select **Plywood** when configuring and loading this media.
- Some surfaces are more porous and absorb the ink giving a washed out appearance. Use the RIP software's Saturated Rendering Intent option to increase saturation.
- Non-white media may not be able to be detected by the onboard camera. If so, create a copy of the Plywood media using the Media Wizard and change the Detectable by Printer option to No.
- Due to the strength and shape memory of wood products the printer may not be able to feed some warped sheets.
- A head height higher than the nominal 0.085 inch (2.2 mm) setting may be necessary to avoid carriage scraping on non-flat materials.
- Use a Plywood media profile from the RIP software.

## Output handling

- These materials are heavy in larger sizes. Do not exceed 150 lb (68 kg).

# Polycarbonate Sheet

Brand names examples: Lexan<sup>®</sup>, Makrolon<sup>®</sup>, Tuffak<sup>®</sup>)

## Considerations

- In general, ink adhesion is better on polycarbonate than on acrylic or glass.
- However, the smooth, non-porous surface does make it susceptible to scratches and scraping. Special precautions are necessary in the handling and display the printed piece to protect it from abrasion.
- Adhesion can be improved with the use of a pre-treatment or primer, such as HP PT70 Specialty Polycarbonate Scitex Primer – part number CD574A.

## Preparation

- Peel the protective film off one side, leaving the other side protected until finishing or installation of the finished graphic.
- This material tends to hold static charge. Review and follow the steps in the Static Electricity chapter of this guide.
- Ensure that media tables are attached and secured to the printer to provide a grounding path for static loaded material.
- Wipe the printing surface with an anti-static tack cloth to remove static charge and any dust or debris.
- If an anti-static tack cloth is not available, 90% or higher IPA on a lint-free cloth can be used to remove dust or debris. Allow the sheet to sit out on the input table about 5 minutes to allow the IPA to evaporate and the static to dissipate.
- Depending on end-use application, ink adhesion may be an issue. Use of a polycarbonate primer can improve ink adhesion.

## Recommended print modes

- Photo or Photo Plus modes for applications where it will be viewed from the printed surface. Use Max DPI – Saturated if higher ink density is needed.
- Indoor Signage Plus or higher quality for applications where it will be viewed through the glass and either a white ink overflow is used or white backer is applied over the printed surface. Flip the image in the RIP software prior to printing for view-through applications.
- Max DPI – Backlit, using either Spot or Overflow modes, for backlit applications.

## Printing

- Select **Clear Sheet** when configuring and loading this media.
- Media placement detection is disabled when using this media type. When loading the media, it is necessary to enter the location of the left (user side) and right (service side) edges of the media according to the Media Measurement Option selection.
- Use a Clear Sheet media profile from the RIP software.
- For applications that require fine detail, use the Fine Text option (available in firmware version 2.01 and later) and/or lower the printhead height from its nominal 0.085 inch (2.2 mm) setting.

## Output handling

- Use clean, cotton gloves to avoid fingerprints.
- Take care when loading or lifting sheets off the table as media and ink can be easily scratched.
- Depending on the end use application, a post treatment may be necessary to minimize risk of surface damage.

# Polystyrene Sheet

Examples: High impact polystyrene sheet, HIPS

## Preparation

- This material tends to hold static charge - avoid sliding the media from the stack or carrying across carpeted surfaces.
- Review and follow steps in the Static Electricity chapter of this guide.
- Ensure that media tables are attached and secured to the printer to provide a grounding path for static loaded material.
- Wipe the printing surface with an anti-static tack cloth to remove static charge and any dust or debris.
- If an anti-static tack cloth is not available, 90% or higher IPA on a lint-free cloth can be used to remove dust or debris. Allow the sheet to sit out on the input table about 5 minutes to allow the IPA to evaporate and the static to dissipate.

## Recommended print modes

- Indoor Signage Plus, Photo or Photo Plus.

## Printing

- Select **Polystyrene** when configuring and loading this media.
- Use the lowest possible UV lamp power setting to cure the ink.
- Media is heat-sensitive, specifically thinner sheets (less than 0.015 inch or 0.4 mm). It may require a higher vacuum setting, faster print modes, higher than standard head height, and printing delays in some combination to achieve best output.
- Use a Polystyrene media profile from the RIP software.

## Output handling

- If ink adhesion is inadequate, print in a higher quality mode and/or wait 24 hours before finishing. Always use a sharp blade when cutting.

# Polystyrene Foam Board

Brand name examples: Gatorplast<sup>®</sup>, Kapa<sup>®</sup> plast, Ultraboard<sup>®</sup>

## Preparation

- This material tends to hold static charge - avoid sliding the media from the stack or carrying across carpeted surfaces.
- Review and follow the steps in the Static Electricity chapter of this guide.
- Ensure that media tables are attached and secured to the printer to provide a grounding path for static loaded material.
- Wipe the printing surface with an anti-static tack cloth to remove static charge and any dust or debris.
- If an anti-static tack cloth is not available, 90% or higher IPA on a lint-free cloth can be used to remove dust or debris. Allow the sheet to sit out on the input table about 5 minutes to allow the IPA to evaporate and the static to dissipate.

## Recommended print modes

- Indoor Signage Plus, Photo or Photo Plus.

## Printing

- Select **Polystyrene Foam Board** when configuring and loading this media.
- Media is heat-sensitive. A print delay of 1 second or more is needed to avoid bowing of the media, which can cause contact with the printhead carriage assembly.
- It may also require a higher vacuum setting, faster print modes and higher than standard head height in some combination to achieve best output.
- Use the lowest possible UV lamp power setting to cure the ink.
- Use 6 inch (15 cm) leading margin on each sheet or use the Warped Media setting to maximize available vacuum to hold sheet flat.
- Use a Polystyrene Foam Board media profile from the RIP software.

## Output handling

- Use clean, cotton gloves to avoid fingerprints.
- If ink adhesion is inadequate, print in a higher quality mode and/or wait 24 hours before finishing. Always use a sharp blade when cutting.

## Appendix A – Pre-defined Media Wizard Settings

Media Type Name	Feed Method	Media Weight	Detectable by Printer	Use Rollers	Conductive	Vacuum Fan Level	Examples
Aluminum Composite	Sheet	Light	No	Yes	Yes	Medium	Alumacore, Alupalite, Dibond, Graphic-AL, Omega-Bond
Clear Sheet	Sheet	Light	No	Yes	No	Medium	Acrylic, Plexiglas, Glass, Polycarbonate
Compressed Cardboard / Cardstock	Sheet	Light	Yes	Yes	No	High	Tag board, Poster board
Corrugated Cardboard	Sheet	Light	Yes	Yes	No	High	Cardboard, Corrugated fiberboard
Corrugated Plastic	Sheet	Light	Yes	Yes	No	Medium	Coroplast, Correx, Corflute, Polypropylene
Foam Board	Sheet	Light	Yes	Yes	No	High	Fome Core, Mighty Core
Foam PVC	Sheet	Light	Yes	Yes	No	Medium	Sintra, Komatex, Celtec, Forex
Magnetic	Sheet	Light	Yes	Yes	Yes	Medium	Promag
Plywood	Sheet	Heavy	Yes	Yes	No	Off	MDO, MDF
Polystyrene	Sheet	Light	Yes	Yes	No	Medium	Styrene
Polystyrene Foam Board	Sheet	Light	Yes	Yes	No	Medium	Gatorplast, Ultraboard
Backlit Banner	Roll <sup>1</sup>	-	No	Yes	No	Medium	Translucent backlit film, Backlit banner
Frontlit Banner	Roll <sup>1</sup>	-	Yes	Yes	No	Medium	Scrim banner vinyl, PVC flex film
Canvas	Roll <sup>1</sup>	-	Yes	Yes	No	Medium	HP Satin Canvas
Clear Film	Roll <sup>1</sup>	-	No	Yes	No	Medium	Polyester film, Cling vinyl
Photobase	Roll <sup>1</sup>	-	Yes	Yes	No	Medium	HP UV Premium Photobase Paper
Self Adhesive Vinyl (SAV)	Roll <sup>1</sup>	-	Yes	Yes	No	Medium	Calendered vinyl, Cast vinyl
Textile	Roll <sup>1</sup>	-	Yes	Yes	No	Medium	HP Heavy Textile Banner

1) Available when the optional HP Scitex FB500 or FB700 Roll-to-Roll Upgrade Kit has been installed and enabled.

# Appendix B – Default Print Modes & RIP Profiles

CMYK and CMYKcm Print Modes	Clear Sheet	Compressed Cardboard/Cardstock	Corrugated Cardboard	Foam Board	Corrugated Plastic	Foamed PVC Sheet	Polystyrene	Polystyrene Foam Board	Aluminum Composite	Plywood	Magnetic
Max DPI - Saturated	G	G	G	G	G	G	G	G	G	G	G
Max DPI (Backlit)	G	-	-	-	-	-	-	-	-	-	-
Photo Plus	G	G	G	G	G	M	G	G	G	G	G
Photo	G	G	G	G	G	M	G	G	G	G	G
Indoor Signage Plus	G	G	G	G	G	M	G	G	G	G	G
Indoor Signage	M	M	M	M	M	M	M	M	M	M	M
Outdoor Signage Plus	M	M	M	M	M	M	M	M	M	M	M
Outdoor Signage	M	M	M	M	M	M	M	M	M	M	M
Express	M	M	M	M	M	M	M	M	M	M	M
Billboard (FB700 only)	M	M	M	M	M	M	M	M	M	M	M
Photo Plus Matte (Onyx only)	MO	MO	MO	MO	MO	M	MO	MO	MO	MO	MO
Photo Matte (Onyx only)	MO	MO	MO	MO	MO	M	MO	MO	MO	MO	MO
Indoor Signage Matte (Onyx only)	MO	MO	MO	MO	MO	M	MO	MO	MO	MO	MO
CMYK + White Print Modes											
Max DPI Saturated – Underflood	M	-	-	-	-	M	-	-	-	-	-
Max DPI (Backlit) – Underflood	M	-	-	-	-	-	-	-	-	-	-
Photo – Underflood	M	-	-	-	-	M	-	-	-	-	-
Indoor Signage Plus – Underflood	M	-	-	-	-	M	-	-	-	-	-
Indoor Signage – Underflood	M	-	-	-	-	M	-	-	-	-	-
Outdoor Signage Plus – Underflood	M	-	-	-	-	M	-	-	-	-	-
Max DPI Saturated – Overflood	M	-	-	-	-	-	-	-	-	-	-
Max DPI (Backlit) – Overflood	M	-	-	-	-	-	-	-	-	-	-
Photo – Overflood	M	-	-	-	-	-	-	-	-	-	-
Indoor Signage Plus – Overflood	M	-	-	-	-	-	-	-	-	-	-
Indoor Signage – Overflood	M	-	-	-	-	-	-	-	-	-	-
Outdoor Signage Plus – Overflood	M	-	-	-	-	-	-	-	-	-	-
Max DPI Saturated – Spot	M	-	-	-	-	M	-	-	-	-	-
Max DPI (Backlit) – Spot	M	-	-	-	-	-	-	-	-	-	-
Photo – Spot	M	-	-	-	-	M	-	-	-	-	-
Indoor Signage Plus – Spot	M	-	-	-	-	M	-	-	-	-	-
Indoor Signage – Spot	M	-	-	-	-	M	-	-	-	-	-
Outdoor Signage Plus – Spot	M	-	-	-	-	M	-	-	-	-	-

G = Gloss RIP profile, default Media Wizard setting of trailing lamp shuttered.  
M = Matte RIP profile, default Media Wizard setting of both lamps unshuttered.  
MO = Matte profile in Onyx for use with a custom created media with the trailing lamp shuttered.  
- = Profile is not available, mode is not supported.