



Title: **Printing on Rigid Substrates with the Gerber Solara ion™ & Gerber CAT | UV™**

Product: Gerber Solara ion & Gerber CAT | UV

Document Number: ANote 2010-ion & CAT UV-010

Last Modified: August 30, 2010

Summary: This document explains the use of rigid substrates when printing on the flat bed of the Gerber Solara ion and Gerber CAT | UV.

Rigid Substrate Standards

The Gerber Solara ion and Gerber CAT | UV can print on a wide range of rigid substrates including, but are not limited to: PVC, polystyrene, corrugated plastic, painted aluminum, acrylic, glass, MDO/MDF, plywood, and sign foam.

- ◆ Maximum rigid material width is 64" (1.6m/162.6cm).
- ◆ Maximum rigid material thickness is 1" (25.4mm).
- ◆ Maximum rigid material length with roll-to-roll option is 120" (3m/304.8cm).
- ◆ Maximum rigid material length without roll-to-roll option is 100" (2.5m/254cm).
- ◆ Minimum sheet size is 12" x 12" (30.5cm x 30.5cm). (See "Printing small jobs" later in this document.)
- ◆ **Rigid sign blank material must be flat within 0.03" (0.76mm).**
- ◆ Warped material may jam in the printer.
 - ◆ Material that is bowed downward will scrape the platen and potentially cause print defects.
 - ◆ Material that is bowed upward will contact the print carriage and cause damage to the printer or the job.

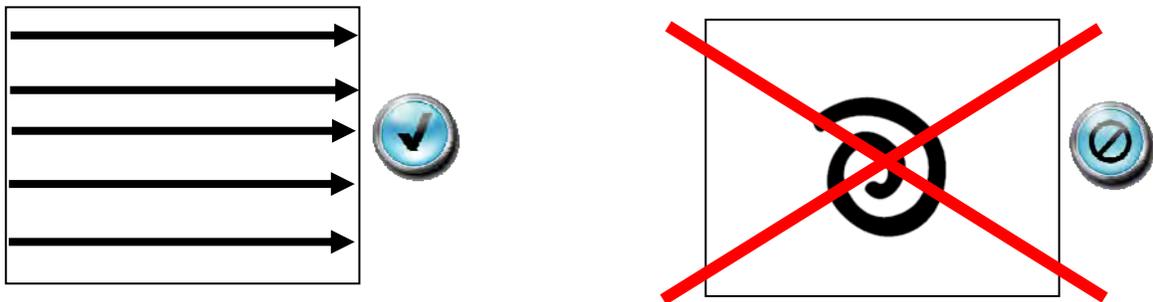
Note: *It is recommended that you use only Gerber-recommended materials for the Gerber Solara ion and Gerber CAT | UV. Printer problems that may occur due to use of materials other than those recommended by Gerber are not covered by the Gerber Solara ion and Gerber CAT | UV warranties. See the Gerber web site, www.gspinc.com/applications, for a complete list of recommended materials.*

Preparing/Cleaning the Substrate

- ◆ Properly prepare the substrate by making sure it contains no rough, bent or crumpled edges that pose a risk of a head strike.

Note: It is STRONGLY recommended that substrates with bent edges are NOT used because the print head to substrate distance is very small. Even slight changes in material height can cause head strikes and/or damage to the print.

- ◆ The surface to be printed must be wiped clean of any dust and debris.
- ◆ Wipe the substrate in a fluid motion in one direction, pushing the dirt off the edge of the substrate. The alcohol should be apparent on the surface.
- ◆ Do not wipe the substrate using a circular motion which can result moving the dirt around into swirled patterns which may be visible after printing.



- ◆ Wait until the cleaning solution fully evaporates before loading or printing on the substrate. **Complete evaporation of the solution may take several minutes to several hours.** Refer to the substrate's product bulletin for specific instructions.

Loading Rigid Material

Occasionally the edges of a rigid substrate will not be pulled flat against the table by the vacuum and may curl upward or bow downward. Follow these instructions to properly secure the substrate to the table. **Remember the distance between the substrate and the print head is very small and slight variations in material thickness can cause print head strikes or damage to the job.**

- ◆ If necessary, secure the edges of the substrate to the table using a LIGHT adhesive tape.
- ◆ Do not use heavy-duty (thick) adhesive tape which may cause print head strikes.
- ◆ Make sure there are no wrinkles in the adhesive tape as they can be larger than the print gap and cause print head strikes.
- ◆ Do not use double-sided foam tape as it increases material thickness and can cause print head strikes.
- ◆ Do not layer heavy material on top of the substrate to force it to lay flat as this will interfere with the printer's ability to determine material height.
- ◆ Straighten out bent or crumpled edges to avoid print head strikes due to variations in material thickness.

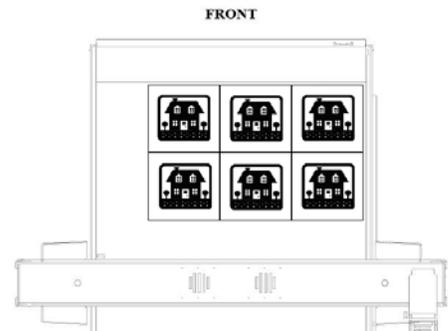
Masking the Table

Masking off unused portions of the table with non-porous material can help to increase the vacuum hold-down. Masking is also used when printing full-bleed jobs to protect the table from ink. Follow these important guidelines when masking the table.

- ◆ To increase vacuum suction, use non-porous material of the same thickness or a slightly thinner thickness than the job substrate (within 1/16" (1.6mm)). Never use thicker masking material as it will cause head strikes.
- ◆ A difference of 0.25" (6mm) or more between the thickness of the job substrate and masking material can cause print quality issues.
- ◆ When printing full-bleed, if there is a large difference between the substrate surface and the table or masking material, the ink spraying off the edge of the sheet may begin to cure in mid-air before it reaches the table or masking material. Partially cured ink droplets swirl around, ending up on the edge of the printed sheet, on the job, or on the bottom of the print head carriage. Always use masking materials that are the same thickness or slightly thinner than the job (within 1/16" (1.6mm)).

Printing Small Jobs

- ◆ When printing small jobs (when the graphic width is less than 48" (122cm)), UV curing may be less than optimal when using 360 two-pass bidirectional mode for the ion or Performance modes for the CAT | UV.
- ◆ To ensure proper ink curing, create a repeat job and arrange the sign blanks across the table so that the total width is more than 48" (122cm).
- ◆ For unique printing applications, GSP recommends using 360 four-pass unidirectional mode or another higher quality mode for the ion and Production 1 unidirectional mode or another higher quality mode for the CAT | UV to ensure adequate exposure to UV light which results in proper curing.



Printing Long Rigid Jobs

When the printer is equipped with the optional roll-to-roll unit you can print jobs up to 10 feet (304.8cm) long.

- ◆ When printing materials in excess of 9 feet (274.3cm), in which a portion of the media comes to rest on the roll-to-roll platen, reinforce the platen vacuum by taping down the last foot of rigid material with a light adhesive tape. This will keep materials from bowing at the roll-to-roll end and prevent the possibility of head strikes that could ruin the job or damage the print heads.
- ◆ For jobs shorter than 9 feet (274.3cm) when using a printer equipped with a roll-to-roll unit, or shorter than 100 inches (2.5m/254cm) when using a flatbed-only printer, the material will rest fully on the table, and therefore no tape is necessary unless there are curled material edges.
- ◆ You may use a light adhesive tape to secure the edges of material to the table and prevent head strikes or damage to the gantry.

Avoid Using the Printer as a Table

- ◆ Do not use the flat bed as a table to store substrates or tools. This poses a risk of damage to the items on the table and to the printer as the gantry moves across the table surface.

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