



Title: **Roll-to-Roll Printing with the Gerber Solara ion™ & Gerber CAT | UV™**

Product: Gerber Solara ion & Gerber CAT | UV

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Summary: This document provides instructions and tips for successful printing with the Gerber Solara ion's and Gerber CAT | UV's Roll-to-Roll option.

Roll-to-Roll Specifications

The Gerber Solara ion and Gerber CAT | UV print on a variety of flexible materials including, but not limited to the following list. You may have success with other materials.

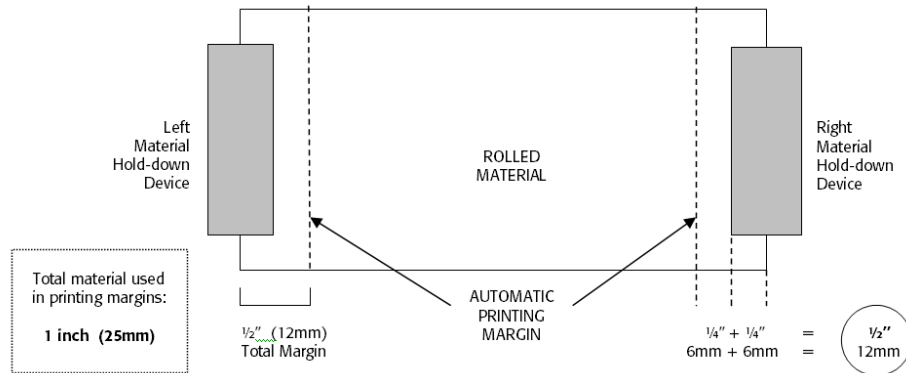
Cast vinyl	Calendared vinyl	Non-grommated banner
Instachange vinyl	Mesh (lined)	Backlit vinyl
Reflective vinyl	Window film	Textiles (canvas, flag)
Paper		

The Gerber ion and CAT UV printers do not detect material size (length or width). Material size must be set in the RIP and you must be careful to load the correct size material to accommodate the job.

- ◆ Maximum rolled material width is 64" (1.6m/162.6cm).
- ◆ Minimum rolled material width is 24" (61cm).
- ◆ Maximum rolled material thickness is 0.030" (0.76mm).
- ◆ Maximum roll weight is 100 lbs. (45.36 Kg).

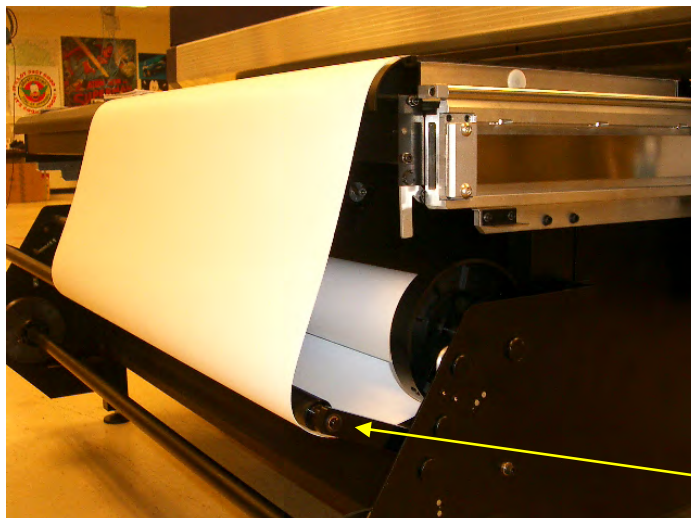
Understanding printing margins

The printing margins vary depending on the type of material used. When using a printer equipped with a roll-to-roll option, the material hold-down devices are installed ¼" (6mm) over the roll (vinyl) material edges to keep the edges from curling during printing. A printing margin of ¼" (6mm) is added from the edge of the shield, making the total margin ½" (12mm) on each side of the material, resulting in a maximum printing width of 63" (160cm) for rolled material. See the detailed illustration that follows.



Loading Roll-to-Roll Material

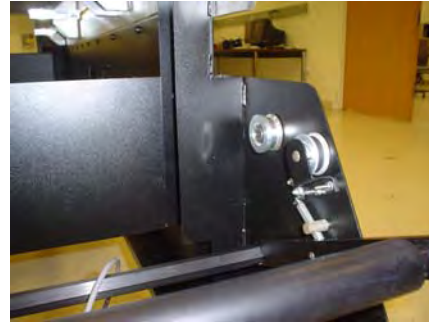
- ◆ Material rolls can be heavy. Maximum roll weight is 100 lbs. (45.36 Kg). Take care when lifting and loading the material rolls.
- ◆ When loading roll material onto a material roller, place the roll on a flat surface. Never load a roll of material onto a roller standing on end as it can damage the material and the roller.
- ◆ The material on the supply roll must not be slack to insure proper media feed. Re-roll material around the supply roll if necessary.
- ◆ Some economy-priced banner or vinyl can stick to itself on the roll. This makes it difficult for the material to be pulled through the printer and will affect the media feed (step adjust) setting. Test the material by unrolling it by hand. If you hear a crackling sound or feel the material sticking, unroll the necessary amount by hand and reroll the material on the supply roll before printing.
- ◆ Always load the material around the dancer bar (tension arm) when using the roll-to-roll system. See the following photo.



Dancer bar (Tension arm)

Long jobs require careful loading

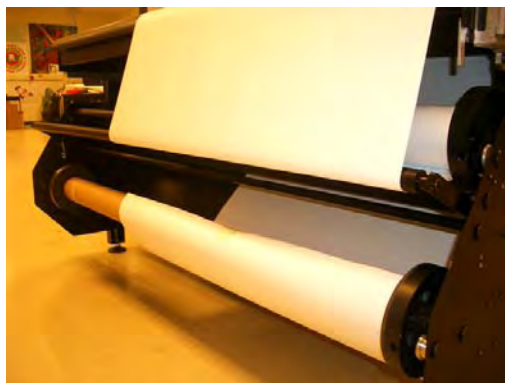
- ◆ When loading long jobs (in excess of 8 feet (2.44m)), be careful to load the material straight in the printer. Even a slight angle of 1/8" (3mm) can result in a much larger error as the job progresses.
- ◆ Check the straightness of a job by winding the material back on the supply roll until all slack is removed and the Dancer bar is pulled up slightly. Check the tension of the feed roll breaks on either end of the supply roll. See the following photos.



- ◆ If the tension is stronger on one side of the printer then the material will tend to slew in that direction. Release the grit wheels and realign the material. Reengage the grit wheels and feed the material forward to check that it is tracking straight. Repeat the tension check and reload the material if necessary until the material is feeding straight.

Using the Material Winder

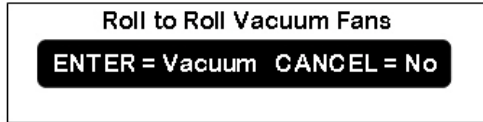
- ◆ When using the Material Winder you must create slack in the material so that it passes before the sensor.
- ◆ Once material is loaded, the winding unit operates automatically during printing.
- ◆ If the winder does not operate automatically, press and hold the winder switch for two seconds in either direction (Wind or Unwind) to enable the automatic winding mechanism
- ◆ A material sensor monitors the length of printed material and activates the winding unit as required. When the printed material loop passes in front of the sensor, the winding unit turns on and winds the excess material onto the take-up roll.



Turning off the vacuum for light weight materials

Some light weight materials do not require the roll-to-roll vacuum when printing.

- ◆ Toggle the Load/Unload key to turn the roll-to-roll vacuum ON or OFF.
- ◆ When in roll-to-roll mode, you have the option to turn the vacuum ON (if it is currently off) after sending the job to the printer. The following screen automatically displays.



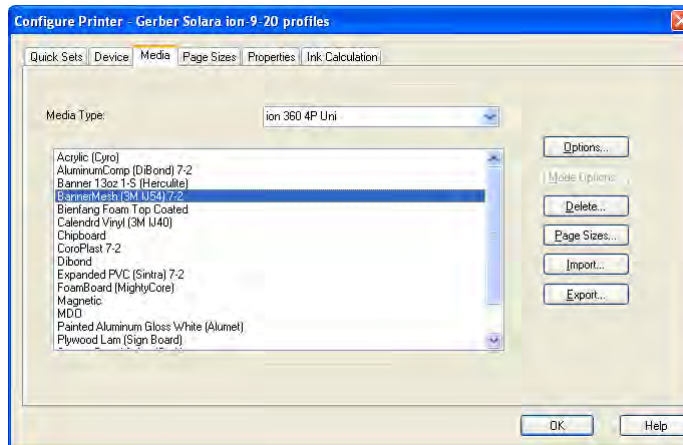
Checking and Adjusting the Media Feed (Step) Adjustment

The media feed or step adjustment directs the printer to pull a certain amount of material when printing. **This setting will need to be adjusted for each material type you use and for every print mode in use.** The media feed setting may also vary from roll to roll when using lower quality materials. It may also change when a heavy roll gets lighter as it is used. Higher quality materials are usually more consistent and require less adjustment.

It is a good idea to test the media feed setting before printing a long or important job, or when using a new material or a new roll. This procedure uses Onyx RIP software. If you use a different RIP, contact the software manufacturer for instructions.

Note: Onyx (or other RIP software) is the only place you should adjust the media feed for roll-to-roll printing. This section discusses the adjustment using Onyx. Your RIP software procedure may vary and some RIPs use a default overlap value of 10000 rather than 240.

- ◆ In ONYX RIP Queue software, go to Configure Printer and then Media. Select the Media Type that you wish to check/adjust. This example will use ion 360 4P Uni.



- ◆ Select the media you are using. In this example: BannerMesh (3M IJ54) 7-2.
- ◆ Click Options and in the Printer Options dialog box, turn on Modify Device Settings. Set the Media Feed Adjustment to 240.00mm.



Note: Do NOT change the Print Mode in the Printer Options dialog box since this will change the profile print mode.

- ◆ Create a job that contains the Feed Adjust file (a 240mm line) and a 10" X 10" (254mm x 254mm) box filled with a light CMYK color.
- ◆ Print the job. Using a high quality metric ruler (not a tape measure which is inaccurate) measure the 240mm line. If the line is longer or shorter you will need to adjust the Media Feed in the Printer Options dialog box, entering the value that you measured instead of 240.00mm.
- ◆ Print the Feed Adjust job again and re-measure the line. It should now be exactly 240.00mm.
- ◆ Examine the CMYK box. If there are noticeable gaps or overlaps (often seen as gloss shifting or white or dark lines) you will need to adjust the Media Feed using micro adjustments. The appearance of banding or gaps in the box can be caused by a slight difference in the length of the 240mm line. For example, banding may be apparent if the line is 239.6mm.
- ◆ If you experience overlaps when printing in Roll-to-Roll mode, you must decrease the number in the media feed adjustment box in Onyx RIP software (or other RIP software). For gaps in Roll-to-Roll mode, increase the number.
- ◆ An acceptable level of banding is subjective and is also determined by the intended viewing distance and quality required for the job.
- ◆ It may also be helpful to add a 1" (25.4mm) top offset to the job in Onyx RIP software. The 1" leader makes the overlap more consistent. Adjust the top offset in Onyx's Change Media and Placement dialog box under Setup.

Using the Flat Bed to Print on Flexible Materials

When printing a single quantity of a job on flexible material, it may be easier to print the job using the flat bed instead of the roll-to-roll option.

- ◆ Customers have successfully printed Tyvek®, thin polycarbonate (less than 0.020 thick), heavy reflective material, and heavy-weight banners using the flat bed. Your results may vary.
- ◆ Flat bed printing may be a good choice if the rolled material does not pull off the roll smoothly.
- ◆ Tape down the edges of the flexible material to ensure that it remains flat against the table during printing.
- ◆ There is no need to adjust the media feed when printing using the flat bed, saving time when printing a single job.

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